ENGINEERING

Thomas Explains Characteristics Of Cork as Insulation and Best Ways to Apply It

By P. Edwin Thomas*, Manager, New York Office, United Cork Companies

STRANGE as it may seem, the story of cork is so little known and shrouded with so much mystery that we have never yet had a complete and comprehensive account of it. A common belief, widely held, is that cork is obtained from the sea, much as sponges are harvested.

The utility and general uses of the "cork of commerce," especially, in so far as the members of this society are concerned, as insulation, are, however, no longer a part of the mysticism; but its character, composition, and chemical construction are still the subject of research and experimentation.

Cork is vegetable matter, nothing else, and not a mineral substance; and its definition signifies that it is essentially a growth peculiar to all plants and pertaining to none in particular. It is described in botany as "a peculiar tissue in the higher plants forming the division of the bark (the bark in this case restricted to the dead, heavy tissues lying outside the cork), such cork tissue consisting of closely packed air-cells nearly impervious to air and water and protecting the underlying tissues."

Examined under the microscope the cork bark of commerce is seen to be made up of minute many-sided cells about 1/750th of an inch in diameter and about twice as long, the long way disposed radially to the trunk. The walls of the cells are extremely thin and yet are wonderfully impervious to liquids.

Cork Changes Volume

Cork bark possesses another quality which assists in distinguishing it from all other solid or liquid bodies, namely, its power of altering its volume in a very marked degree in consequence of change of pressure.

All liquids and solids are of course capable of cubical compression or extension, but to a very small extent. Thus water is ordinarily reduced in volume by only 5/100,000th part by the pressure of one atmosphere. Liquid carbonic acid yields to pressure much more than other fluids, but still the rate is very small. Solid substances, with the single exception of cork, offer equally obstinate resistance to change of bulk. Even India rubber, commonly supposed capable of considerable change of volume, is very rigid. Metals, when subjected to pressures exceeding their elastic limits so that they are permanently deformed, remain unchanged in volume per unit of weight.

But this is not so with cork; its elasticity has not only a very considerable range, but is very persistent. Thus in the better kinds of corks used in bottling champagne you are familiar with the extent to which the corks expand the instant they are drawn from the bottle, such expansion amounting to as much as 75 per cent even after compression in the bottle neck for 10 years.

When cork is subjected to pressure, a certain amount of permanent deformation or set takes place, which property is common to all solid elastic substances when strained beyond their elastic limits, but with cork the limits are very low.

To reduce the volume of cork to one-half, a pressure of 250 lbs. per sq. in. is required. At 1,600 lbs. the volume is reduced to about 44 per cent. The yielding then becomes very little, showing that the solid parts of the cells have come together to form a solid, compact mass, thus demonstrating that the gaseous part of cork constitutes about 53 per cent of its bulk.

Retains Spongy Structure

But no matter what compression is used, providing there is no disintegration, the cork will retain that slight spongy structure which so marks its growth.

In analyzing the solid matter of cork, one scientist found by treatment with nitric acid the following yield:

Cellulose	0.18 parts
Resin	14.72 parts
Oxalic acid	16.00 parts
Suberic acid	14.40 parts
Total	45.30 parts

Suberic acid ($C_4H_{14}O_4$) is peculiar to cork itself, the others being readily known—a white crystalling powder, sparingly soluble in cold water, fusible and volatile by heat. It fuses at 300° F., and sublimes in acidular crystals. Suberic acid can be broken up into two compounds, suberone ($C_{14}H_{24}O_2$) and suberate ($C_8H_{12}M_2O_4$).

Suberate is the salt of suberic acid, and cellulose is that portion remaining after nitration, the commonest of common things, when dry forming one-third of all the vegetable matter in the world, although we know practically nothing about it except that expressed in the formula, $C_6H_{10}C_5$.

Cellulose Present

The mere presence of cellulose is only a natural fact, as the greater part of plant life is cellulose; but the chief qualities that make cork a wonderful growth, its extreme lightness and its imperviousness to air and water, are greatly dependent upon the presence of cellulose in the cell structure, which fact is not generally known and understood.

Two principal properties make the use of cork bark of value as a commercial insulating material—its marked ability to retard the flow of heat and its freedom from capillarity. Other properties are the lightness and buoyancy of cork, due to the presence of air, and excess of hydrogen known to be lighter than air, and the small percentage of other matter which, of less importance, makes its other qualities so renowned as to make cork bark the most wonderful growth of its kind.

In fabricating cork into sheets of insulation, however, by baking to fry out the natural resin with which to glue the mass together, the important fact of its containing 53 per cent of air must not be neglected, for heat of 450° F. expands to the point of explosion the contents of those cells nearest the surface, which giving up their oxygen feed the flames and in their passage help to disintegrate the cell walls.

Fortunately this rapid burning leaves the outer surface of the cork charred and flaky and produces a sort of protection coat of carbon which a subsequent flame penetrates with difficulty.

In the manufacture of cork insulation, it is therefore necessary to accomplish two major results, viz.:

1. Provide to the molds, suitable granulation that will nest closely under a pressure that will not collapse the natural cells, because it is the dead air content of the cells themselves and not air entrapped between the particles that guarantees an effective retarder.

2. Bake the mass at temperatures and by such means as will not explode the cells and destroy the natural cellular structure, while at the same time fry out the natural resin without its disintegration to bind the particles together in a compact permanent mass.

Improvements in Manufacture

Much attention has been directed to the second of these, with notable advances in the manufacturing art, so that the cork insulation of today is much superior to that of a few years ago.

However, the problem presented by the first of these, that is, the compact nesting of the granules to exclude foreign air in the interstices between granules and eliminate passages through which air under pressure may find its way through the insulation, has not yet been satisfactorily solved and may never be completely solved, although a high degree of perfection has been obtained.

Thus the desirability of protecting or air-proofing cork insulation in service remains a practical consideration. The partial vacuum created in cold rooms by the chilling of the air content of the room, which air thus contracts and occupies less space, causes other air to be sucked in to equalize and balance the pressure.

If the cold storage doors are tight and no breather devices are provided, such air will find its way into the room through the weakest points, often through the building walls themselves.

Why Waterproofing Is Necessary

When such warm air, carrying water in suspension, strikes the dew point, it is precipitated in the cold storage construction, freezes and expands 9 per cent of its former volume with consequent destruction.

Perhaps the greatest change in insulation practice during the past dozen years has occurred in the method of applying the initial course of insulation to wall surfaces, especially to concrete, brick, tile, or stone, and also in connection with the finish applied to the exposed surface of the insulation in the cold room itself.

The specification followed for many years was to apply the first layer of corkboard to new, clean building walls in a bedding of Portland cement, with cement between the layers, and then finish the insulation off with Portland cement plaster. But failures of insulation applied in this way became sufficiently numerous, as the years passed, finally to justify active investigation of the subject by manufacturers and important users; and the failures of insulation, aside from those due to poor materials and workmanship at the time of installation, were traceable to moisture in the insulation, which collected after the corkboard had been in service for some time and which in time caused disintegration of the corkboard through the decomposition of the resin binder in contact with water or which caused more rapid disintegration from ultimate freezing and thawing of moisture in the insulation.

These investigations demonstrated conclusively that this moisture found its way into cork insulation by two distinct and different sources.

When water is precipitated on the plastered surface of an insulated cold storage room by the condensation of moisture out of the air of the room against a cool surface, a part of such water is absorbed by the plaster by capillarity, which tends slowly to disintegrate the plaster by placing a portion of this moisture on the surface of the insulation directly behind the plaster.

The cork, unlike other materials, will not take up this water by capillarity, as already explained, but such water may find its way into the corkboards by gravity, traveling through any possible interstices or voids between the particles of cork bark used in the manufacturing process.

Certain Voids Unavoidable

While manufacturers now understand and appreciate that the modern corkboard product of maximum worth must be compact and free from voids to the greatest possible extent, yet it would appear that all voids, especially surface voids, cannot be eliminated. Thus water in contact has been known to penetrate corkboard insulation to a depth of an inch or so toward the outside building wall.

Water may also find its way into corkboard insulation through an entirely different source, that is, from the outside of the building, as mentioned before.

The discovery of these two distinct ways in which moisture is placed in corkboard insulation has been of great value in revising insulation specifications. Air proofing of surfaces to receive insulation is now done wherever possible or feasible, so that instead of air being drawn through the building walls and the insulation, to compensate a partial vacuum in the room, such air will be supplied through some other channel or in some other way.

These surfaces must be air proofed, not waterproofed, and the necessity for air proofing is believed to increase with decrease of cold storage room operating temperature and in a general way with the size of the room. The greater the cubical content of the room, the greater will be the vacuum effect produced by the refrigeration.

Choice of Building Materials

The choice of materials used in the building construction will also decrease or increase the resistance of the passage of air. A hard, repressed brick is to be preferred. If monolithic concrete, it should contain a so-called waterproofing material to close up the pores as much as possible and provide just that much more resistance to the infiltration of air.

To air proof building walls, two good coats of a suitable asphalt primer—not ordinary asphalt paint—should be applied, by brush or spray gun, as reason dictates. A suitable priming material is a good grade of unfluxed petroleum asphalt cut to the proper consistency with a solvent.

The corkboard should then be erected in hot, odorless insulating asphalt against the primed surface of the building walls, and the second layer erected to the first in the same material and additionally secured with skewers.

By way of a suitable interior finish over the insulation in cold storage rooms, manufacturers first developed an asphalt mastic coating ironed on the corkboards at the factory.

In due course and after considerable experimentation, an emulsified asphalt plastic finish was developed that could be applied on the job in a manner similar to Portland cement plaster, in two coats, with a continuous surface sufficiently elastic to withstand without cracking the contraction and expansion incident to cold storage rooms.

*Paper read before the Philadelphia Section of American Society of Refrigerating Engineers.

Executives Present Sales & Advertising Plans

Three Stewart-Warner officials addressed distributors during the recent radio convention. (1) F. A. Hiter, vice president and general sales manager, outlines the dealer campaign. (2) Sales Manager John Ditzell explains individual models. (3) Advertising Manager Fred Cross describes the 1936 Ferrodyne advertising drive.

McCORD Refrigeration PRODUCTS

COMMERCIAL EVAPORATORS

DOMESTIC EVAPORATORS

CONDENSERS

METLFLEX ICE TRAYS

SPIRAL FINNED TUBING

AIR CONDITIONING SURFACE

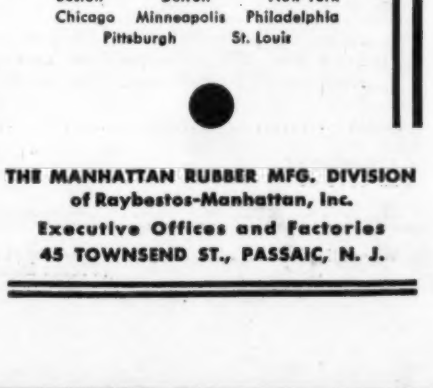
McCORD RADIATOR & MFG. CO. - DETROIT

VIRGINIA SMELTING Company

WEST NORFOLK, VIRGINIA

Extra Dry ESOTOO LIQUID SULPHUR DIOXIDE

V-METH-L METHYL CHLORIDE



MAXIMUM TRACTION

MANHATTAN V-BELTS

for Fractional Horsepower Service are made with our exclusive friction surface designed to give maximum traction during its entire life . . . Special dressing is not required and slip at all times is negligible. The belt will operate successfully under adverse conditions and is unaffected by oil, small drive pulley, or sudden jerks from intermittent starting and stopping . . . Manhattan V-Belts have unusual flexibility, strength and extreme lack of stretch. A trial will convince you.

For complete literature, write the factory or any of the following Sales Branches:

Birmingham Cleveland New Orleans
Boston Detroit New York
Chicago Minneapolis Philadelphia
Pittsburgh St. Louis

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Executive Offices and Factories
45 TOWNSEND ST., PASSAIC, N. J.

A621.031
E383

THE NEWSPAPER OF THE INDUSTRY

ELECTRIC REFRIGERATION NEWS

WRITTEN TO BE READ ON ARRIVAL

Registered U. S. Patent Office

ESTABLISHED 1926. MEMBER AUDIT BUREAU OF CIRCULATIONS. MEMBER ASSOCIATED BUSINESS PAPERS. MEMBER PERIODICAL PUBLISHERS INSTITUTE

VOL. 15, NO. 16, SERIAL NO. 334
ISSUED EVERY WEEK

Entered as second-class matter Aug. 1, 1927

DETROIT, MICHIGAN, AUGUST 14, 1935

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THREE DOLLARS PER YEAR
TEN CENTS PER COPY

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AUG 16 1935

'Plug-In' Type Conditioner Is Built by G-E

Self-Contained Cooler Requires No Water or Drain Connections

BLOOMFIELD, N. J.—A self-contained room cooling unit which operates without using special power lines or water supply and drain piping has just been put on the market by the air conditioning department of the General Electric Co.

Operating on a 110-volt current its four motors start in staggered sequence so that there can be no heavy inrush of starting current, with the consequent danger of blowing fuses.

Because the unit is itself air cooled, no water connections are necessary. Drain connections are eliminated, as the water condensed on the cooling coils is evaporated into the condenser cooling air and blown outside through the window duct connections.

Basic element of the new FC-2 unit is a compressor unit, consisting of a hermetically sealed compressor similar to the smaller compressor used in the General Electric Monitor Top refrigerator. In the same framework which holds the compressor is mounted the evaporator, or cooling coil, and, just above the compressor, the air-cooled condenser.

All refrigerant connections to the

(*Concluded on Page 13, Column 1*)

Carrier Conditioners Will Be Financed On FHA Terms

NEWARK — Carrier Engineering Corp. has signed a contract with Equipment Acceptance Corp., subsidiary of Commercial Investment Trust, for the long time financing of air-conditioning and commercial refrigeration installations under the FHA National Housing Act.

The contract, which is in accordance with the standard plan of the new Federal Act, involves contracts from $2,000 to $50,000 extending over a period of 5 years.

One of the chief advantages of the plan, states M. S. Smith, treasurer of Carrier Corp., will be that it enables commercial establishments to pay for air conditioning out of increased earnings.

Strelinger & McIntyre Are Promoted to New Positions in Kelvinator Corp. Selling Organization

* * *

DETROIT—Godfrey Strelinger has been named to the newly created position of general assistant to the vice president in charge of sales of Kelvinator Corp., and V. J. McIntyre has been appointed domestic sales manager, reports Vice President Henry W. Burritt.

For the past two years Mr. Strelinger was sales manager of the Leonard Refrigerator Co., and previous to that was manager of the Kelvinator Detroit branch office.

Mr. McIntyre was previously manager of the Kelvinator department store sales division.

V. J. McINTYRE
New domestic sales manager of Kelvinator Corp.

GODFREY STRELINGER
Appointed assistant to Kelvinator vice president.

18 Air Conditioners Sold in San Antonio

SAN ANTONIO, Tex.—Air conditioning is making rapid gains in popularity here. The 18 installations made during the first six months of 1935 total 338 hp., twice the connected load added to power lines through air-conditioning equipment during the whole of 1934.

At the present time there are 75 air-conditioning installations in operation in the city, totaling 5,124 hp., or approximately 3,882 kw. of connected power load.

Largest number of air-conditioning systems is in private residences, 18

(*Concluded on Page 13, Column 1*)

Briers Made 87 Sales in 12 Weeks in Town of 1,637

HINTON, W. Va.—In this town of only 1,637 users of electricity, Charles Briers, salesman for the Virginia Public Service Co., Kelvinator dealer, recently sold 87 electric refrigerators in 12 weeks, as compared with 37 units sold in all of 1934. Mr. Briers sold entirely under the Kelvinator Meter-ator plan.

Petrie Will Direct Leonard Sales

R. I. PETRIE
Heads sales department of Leonard Refrigerator Co.

* * *

DETROIT—R. I. Petrie has been appointed sales manager of the Leonard Refrigerator Co.

Mr. Petrie has been connected with the Leonard organization for many years, both with the factory organization and in the field. For the past two years he has held the position of domestic sales manager of another division of the company which he leaves to assume his new duties as Leonard sales manager.

Geyer, Cornell and Newell Appointed Kelvinator Agency

DETROIT—Kelvinator Corp. has appointed Geyer, Cornell & Newell, Inc., as advertising counsel preparatory to inaugurating its 1936 sales and advertising campaign, which will be the most aggressive in the company's history, reports H. W. Burritt, vice president in charge of sales.

B. B. Geyer, president of Geyer, Cornell & Newell, while here last week with H. W. Newell and other members of the agency's organization, declared that a Detroit office will be established in the near future, to make the fourth in a list which already includes New York City, Dayton, and Rochester.

Entrance of Geyer, Cornell & Newell into the Detroit business picture marks the latest step in the growth of this agency. Formerly known as the Geyer Co., the agency two years ago merged with the Paul Cornell Co. of New York. July 1 of this year marked the entrance of Mr. Newell into the company.

Besides Kelvinator Corp., other nationally known advertisers served by this organization include National Cash Register, E. R. Squibb, Community Silver, Talon Fasteners, Dayton Tires, and others.

Both the principals and the staff of Geyer, Cornell & Newell are well acquainted with the electric refrigeration field. The agency itself for 10 years directed the advertising of Frigidaire Corp. Mr. Newell, before joining the agency, has progressively occupied positions of increasing importance with Frigidaire, being vice president in charge of sales when he resigned to become a member of the agency.

Frigidaire Conditions New Orleans Hotel

DAYTON—Frigidaire Corp. has received from Seymour Weiss, managing director of the Roosevelt hotel, New Orleans, an order for immediate air conditioning of 113 rooms in the hotel, J. J. Nance, air-conditioning and commercial division manager, stated last week.

Installation of a multiple air-conditioning system with individual units in each of the 113 rooms is to be completed as rapidly as possible.

Morford Joins Hotpoint As Field Specialist

CLEVELAND—Erle Morford, formerly with the Stewart-Warner Corp., has been appointed a field specialist for the Hotpoint refrigerator division of General Electric Co.'s specialty appliance department, reports Harry C. Mealey, manager of the Hotpoint refrigerator division.

Morford was connected with Stewart-Warner for 24 years.

In his new position he will cover jobber sales organizations.

EH&FA Seeks New Charter to Widen Activity

Gov't. Financing Agency Breaks from TVA and May Be Nationwide

MUSCLE SHOALS, Ala.—As a result of a gradual development during the last several months, the Electric Home & Farm Authority has been divorced from the Tennessee Valley Authority and has blossomed forth as a national agency for the financing of sales of electrical appliances.

Application for a charter for the broadened EH&FA has been filed in the District of Columbia. It will take over the assets of the old EH&FA, a Delaware corporation, which is already in progress of liquidation.

The agency will henceforth operate in close cooperation with the Rural Electrification Administration, although its headquarters will be those of the Reconstruction Finance Corp. A regional office may be retained in Chattanooga, Tenn., headquarters of the old EH&FA.

The new EH&FA is strictly a discount agency, authorized to endorse notes, buy and sell chattel mortgages and conditional sale contracts, etc., to finance purchase and sale of electrical equipment and appliances, also plumbing equipment and appliances. Capital is to be provided by the RFC.

EH&FA is thus going into new fields. Its principal interest heretofore has been that of promoting sales of cheap electric refrigerators, ranges, and water heaters. The new agency will promote farm pumping systems and other heavy equipment in the electrical and plumbing fields.

Under the old plan credits were not extended for more than three years, but it is now proposed to extend this up to seven years in the case of the heavier appliances.

Redmond to Distribute Frigidaire Commercials

CLEVELAND — Establishment of the H. A. Redmond Co. as Frigidaire commercial refrigeration representative in metropolitan Cleveland was reported last week by H. H. Kennedy, Cleveland district manager for Frigidaire Corp.

The Redmond Co. is operated under the direction of Harry A. Redmond, president, who founded it 21 years ago as a market fixture and supply house, and has built it to one of the largest firms of its kind in the middlewest.

The company occupies its own two story building at 2359 East Fourth St., Cleveland, and has installed as part of its display of fixtures for markets, groceries, restaurants, and bars a complete floor and window display of Frigidaire compressors, coils, ice cream cabinets, beverage coolers, and flowing cold units.

With five outside salesmen em-

(*Concluded on Page 14, Column 5*)

New S-W Distributor For St. Louis Named

ST. LOUIS—The Electric Lamp and Supply Co. is the new distributor in the St. Louis territory for Stewart-Warner refrigerators and radios.

H. S. Hollander, the distributor, and his entire sales force attended the recent Stewart-Warner convention at Chicago and placed a large initial order for radios as well as refrigerators. Final negotiations were completed at the convention by L. L. Kelsey, factory representative.

Electric Lamp and Supply Co. will continue to handle the distribution of Electrolux refrigerators.

Glasgow-Stewart Made F-M Distributor

CHARLOTTE, N. C. — Glasgow-Stewart & Co., of this city was recently appointed distributor for Fairbanks-Morse Home Appliances, Inc., its territory comprising all of South Carolina and most of North Carolina.

Wide Variety of Specialty Selling Methods & 'Stunts' Put Into Use as Dealers Smash Traditional Summer Slump

UNTIL quite recently, electric refrigeration dealers and salesmen used to confine their efforts on household refrigerators largely to the period between the first of March and the last of July.

If there is such a thing as "refrigerator religion," these dealers got it. They were in on every campaign, stunt, drive, contest—as long as it was held between March and August.

But August was something else again. "Too late to sell them this year," these dealers said. So they knocked off work—and went fishing.

This year, refrigeration dealers are "fishing" during August — fishing harder than they ever have before. But this time it's for sales.

Spring weather was late this year, so late that it knocked a lot of those "March to July" sales right out of the window. Dealers came into the hot months with a considerable share of their year's work still ahead of them.

They got under way late—and when August came, they just forgot to stop trying. And all indications are that this August can be the best one that the refrigeration industry has ever known. Some example of stunts dealers are staging to make it so:

Dealers in Sheboygan, Wis., have opened a campaign all during August, with cooperation from their distributors and the utility company. A distributor in Tennessee inaugurated a system of "blind bonuses" to spur salesmen during the summer months.

A manufacturer's merchandising representative originated a unique "three letter" plan to increase average salesmen's efficiency. Another dealer tied his summer campaign in with an electric kitchen. A "Mr. and Mrs." sales department built business for a California department store.

Cooperative advertising led the way to greater sales for a southern city's refrigerator dealers; and a dealer in Los Angeles brought his models right out on the sidewalk, so prospects either had to notice them or fall over them.

These campaigns, and others, were described in the first of ELECTRIC REFRIGERATION NEWS' "specialty selling" issues, published last week.

This week, on pages 4, 5, 6, 7, and 12, another series of "how dealers are selling during August" stories are told.

Following are references to these stories by headlines:

"August Sales Will Result from First-of-the-Year Canvassing, Three Caswell Salesmen Agree," page 4.

"Distributor Offers Limited Number of His Users Chance on Merchandise for Prospect Names," page 4.

"Making Sales Ladies of Users through Bonus for Leads Helps Los Angeles Firm," page 5.

"Upper New York Dealer Broadcasts Actual Closing of a Sale Over Local Station," page 5.

"'Personal Touch' in Direct Mail Promotion and No Mention of Trade Names Pulls Prospects," page 5.

"Boston Kelvinator Branch Ties-in with Byrd's Homecoming," page 6.

"Premiums in Hot Months and Use of Individual 'Closing Rooms' Builds Sales for E. A. Barnes," page 5.

"Salesman Mistaken for Someone Else Just Sits Tight—Leaves with $309 Order!" page 5.

"'Dramatized' Sales Presentation in the Showroom Gets Sales for Tulsa Firm," page 6.

"'Information Seekers' Are Changed into Prospects by Trick of Phoenix Dealer," page 6.

"G-E Monitor Top Placed on Sidewalk Attracts Interest of Passersby," page 6.

"Dealer Finds Competition Softer, People Easier to Sell after 'Season' Ends," page 6.

"How to Hire and Train Salesmen Outlined in New Book," page 12.

In addition to these news stories there is additional editorial material dealing with "Specialty Selling" methods such as the every-issue feature "Sales Idea of the Week" by V. E. "Sam" Vining (page 2); second instalment of a new feature "Sales Contests and How to Run Them" by John Kumler, outlining in this instalment the "'Surprise' Contest with Prizes Offered at the Start of the Day" (page 4); an instalment of Editor George F. Taubeneck's story of the life of John Patterson and his development of the specialty selling formula (page 20); and "Norge Salesmen Tell How They Get and Classify Prospects" (page 7), an article based on the Norge Sales Training Manual.

Winning Caswell 'Jockeys' Ride the Waves

Members of the Caswell Jockey Club deserted their mounts and rode the waves of Lake St. Clair on the cruiser "Duchess," as a reward for beating their quota in G-E's Refrigerania Sweepstakes. (1) James Van Wingen, household leader. (2) Roy Grant, commercial leader. (3) Harry Warren, sales promotion manager.

Norge Sales Aided By FHA Loans

DETROIT—Norge July sales showed a 67 per cent increase over the like month of last year, Howard E. Blood, president, Norge Corp., states.

"The more convenient buying terms made possible by FHA," declares Mr. Blood, "is stimulating much increased business for all home appliances. Many of the country's largest banks are making it so convenient to purchase on low monthly terms that families of unusually low incomes are now able to satisfy their desires for electric refrigerators, washers, ranges, and oil burners.

"The business increase has been particularly good west of the Mississippi," he declared.

"Several of our western distributors have already passed their year's quota. This year's volume to date is far ahead of last year."

Keeping Pace

OUR engineering staff is continually alert to improve the line of ACE HARD RUBBER DOORS, RAILS, JAMBS and other parts for Display Refrigeration Equipment. Manufacturers look to us for standard products and dependable service. They get it.

A complete catalogue will be mailed to manufacturer who wishes to consider Ace products and Ace service.

AMERICAN HARD RUBBER CO.
11 MERCER STREET, NEW YORK, N. Y.
Akron, O. • 111 W. Washington St., Chicago

Pacific Coast District Leads Westinghouse Summer Contest

MANSFIELD—With 36 per cent of their distributors over 100 per cent of the established quota, four more over 200 per cent, and one over 300 per cent, the headquarters staff of the Westinghouse "Call to Colors" sales campaign is looking forward to breaking all previous records for similar campaigns. Two weeks are left of the campaign period.

H. E. Saviers & Son, Westinghouse dealer at Reno, Nev., leads the entire country with 330 per cent of given quota. Close on Saviers & Son's heels are Wesco, Salt Lake City with 288 per cent; Kempf Bros., Utica, N. Y., 205 per cent; and Wesco, Baltimore, an even 200 per cent.

Due to the efforts expended in the final stages of the campaign the Westinghouse dealers have reached a national average of 95 per cent of the predetermined quota for the entire period.

An examination of the records shows that the Pacific Coast district is leading all other districts with an average of 151 per cent of quota. Two other districts, the eastern with 108 per cent and the Middle Atlantic with 101 per cent, have also passed the 100 per cent mark.

Mrs. Wanamaker Killed In Auto Accident

CHICAGO—Mrs. Rose Wanamaker, wife of Duane Wanamaker, advertising manager of General Household Utilities Co. (manufacturer of Grunow household electric refrigerators and radios), was killed in an automobile accident here last Wednesday night, Aug. 7. Funeral services were conducted Friday from the Wanamaker home, 1304 Crescent St., Park Ridge, Ill.

Standard Statistics Bulletin Prophesies Bigger Dollar Sales

NEW YORK CITY—While manufacturers' sales of household electric refrigerators for the first five months reached the million mark, consumer buying declined in the late spring and dealers' stocks are understood to be relatively heavy, says the current "Household Products and Supplies" issue of *Standard Trade and Securities* in predicting that the total output for the year may not be much above that for 1934.

Producers' profits, says the bulletin published by Standard Statistics Co., may be somewhat lower, despite the fact that slightly higher average prices have been generally maintained.

Price-cutting, the publication declares, has occurred in several markets, but has applied, in large part, to the carryover of last year's models.

The effect of keen price competition throughout the history of the industry has served to keep earnings down, says the bulletin. An interrupted decline in average household refrigerator retail price quotations from $600 in 1920 to $170 in 1933 has been shown, it points out.

The destructive nature of the price cutting was clearly revealed, states the bulletin, by the contrast between large volumes and unimpressive earnings. Because of this factor and a rise in raw material and labor costs, the trend of prices was reversed in 1933, although operating margins were not widened appreciably.

These price increases are said to supply indications of a more constructive trade sentiment. It is quite possible, the bulletin predicts, that future operations will be conducted on a more satisfactory basis and that quality or established reputation will replace price as the industry's primary sales inducement.

In its section on "Outlook for Household Products Securities" the bulletin discusses two manufacturers of refrigeration equipment: Kelvinator Corp. and Servel, Inc.

Following is the report on Kelvinator:

"Because of an unseasonably poor June quarter, earnings for the first nine months of the current fiscal year declined to $0.68 a share from $1.09 in the like 1933-34 interval. Profits for the full current term (ending Sept. 30) may not equal the $1.07 for the preceding 12 months, but should cover the present $0.50 dividend by a good margin. Dealer stocks of refrigerators are low, and inventory problems should be avoided at the year-end.

"Kelvinator has participated actively in the rapid growth of the refrigeration industry, and now shares leadership with General Electric and General Motors (Frigidaire) in the domestic market, besides conducting an important business in Canada. Although the company produces all types of refrigerators, sales and profits are derived mainly from household models.

"The commercial division normally contributes only about 10 per cent of total sales, and probably a smaller percentage of earnings. With a view to offsetting the pronounced seasonal character of the refrigeration business, the company in recent years has entered the oil burner and air-conditioning fields.

"Although earnings declined to nominal proportions in 1932, due both to shrinkage in unit volumes and price reductions necessitated by keen competition, the company avoided losses throughout the depression. The marked gains in unit volumes in 1933 and 1934 were not accompanied by a corresponding increase in earnings, because of higher costs and inadequate profit margins. Keen competition probably will continue to restrict profit margins, but the prospective expansion in unit volumes should permit gradual improvement in aggregate results.

"Dividends were suspended for a period of about four years prior to 1934 (during which funds were applied principally to the retirement of funded debt), but were resumed in January, 1934. Although the financial position is strong, future disbursements are likely to be rather conservative."

Standard Trade and Securities says the following with respect to Servel:

"Although sales of this company reached a peak in the April quarter, when earnings offset the initial quarter loss and permitted a profit of $0.39 a share for the full six months, volumes have subsequently held up well and promise to remain at relatively high levels over coming months. The new kerosene Electrolux model is meeting with unusually good demand. Earnings for the full current fiscal year (ending Oct. 31) may approximate $1 a share, which may prompt some dividend disbursement on the common stock.

"Successor through reorganization to an enterprise which met with indifferent success during the early days of mechanical refrigeration, Servel, has strengthened its position materially in recent years, especially since the new management took charge early in 1934.

"Of particular significance has been the introduction of an air-cooled Electrolux model, designed to operate on either gas or kerosene, which has created a much wider potential market than that for the former water-cooled unit. Operations have been concentrated on this new line, and the other departments have been either eliminated entirely or sharply curtailed. Extensive advertising and strong support by utilities are important factors in the company's sales program.

"While lower unit production caused a marked recession in revenues during the depression, inventory adjustments and write-offs for bad debts were largely responsible for reported deficits. Despite additional charges of about $600,000 in 1934, incident to discontinuance of old lines, a 50 per cent sales gain enabled the company to report a substantial profit. With extraordinary charges eliminated, future operations should reflect more fully the prospective continued expansion in unit volume, although profit margins probably will remain restricted by keen competition.

"Inauguration of common dividends should follow rather promptly sustained earnings betterment, although the dividend policy is likely to be fairly conservative during the next few years. Since reported losses have represented largely book write-offs, an excellent financial status has been maintained, with cash alone at the 1934 fiscal year-end, almost five times total current liabilities."

Sales Idea of the Week

By V. E. Vining, Director of Department Store Sales. Westinghouse Electric & Mfg. Co.

Many years ago in Marysville, Ohio, I "barked" for a "side show" at the Union County Fair.

Business was bad—in fact, it was BAD.

We ran "em" out in front of the platform until the sweat ruined their make-up. We shook the rattles off the tambourines. I fired pistols into the air. I wore out a whip-cracker against the canvas illustrations of what we hoped the suckers would think happened inside the tent.

I talked my prettiest. I writhed and twisted and turned. I shouted and whispered. I pleaded. I begged. I insinuated, cajoled—even illustrated—

But still—

Those farmers hung on to their dimes. Disgusted—

I borrowed a grind organ and a tin cup from the merry-go-round, donned a pair of dark glasses, hung a sign around my neck reading "Pity the Blind" and sat down under an oak tree in the center of the "Midway."

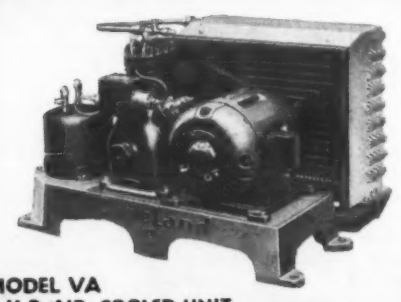
Age has made me a bit ashamed of the glee with which I accepted the pennies, nickels, and dimes that poured into my cup but—

I went back to law school the next week with one thought firmly embedded in my mind.

Ballyhoo carries its own label—and—

SENTIMENT beats ARTIFICIAL excitement a million ways as a selling urge.

COPELAND has the ACKNOWLEDGED ABILITY to Build SUPERIOR UNITS!



MODEL VA
2 H.P. AIR-COOLED UNIT

30 COMMERCIAL MODELS

18 Years Devoted Exclusively to Electric Refrigeration

COPELAND units have earned an envious record for long time performance at high efficiency and with practically no maintenance attention. This widely acknowledged superiority is the direct result of Copeland design and engineering plus a broad experience of 18 years concentrated upon electric refrigeration exclusively. Such unusual built-in quality is a part of every Copeland unit we produce. When you place a Copeland unit into service, you have sold your customer long-time, trouble-free performance.

A Few Territories Are Available. Write!

COPELAND REFRIGERATION CORPORATION
Manufacturers of a Complete line of Household and Commercial Refrigeration
Holden Ave. at Lincoln . . . DETROIT, MICH.

Copeland
DEPENDABLE Electric REFRIGERATION

"they eliminate trouble"

That's what more than one service and installation man has told us about the 73-R solenoid refrigerant valve.

The forged brass body appeals to them because they know there can be no leakage. The completely sealed coil, which is only found in A-P valves, and the impact type plunger are additional features which assure dependable operation. In addition to this, the seat is a special insert onto which the stainless needle seats.

Check into the valves you use—specify the 73-R. Write for prices and further details.

AUTOMATIC PRODUCTS COMPANY
121 N. Broadway Milwaukee, Wisconsin

You're Bound to Win with CROSLEY!

Crosley speaks with a background of years in electric refrigeration . . . many more years in radio.

During all these years the Crosley business philosophy has been this:

Crosley cannot succeed without the loyal support of dealers;
Crosley cannot afford to do anything that will alienate this support;
As dealers profit, so Crosley profits.

There have been many times when Crosley could have profited temporarily by means of questionable trade practices that would have proved harmful to the dealer. But it would have been a short-sighted thing to do . . . contrary to Crosley policies.

★ NO CUT PRICE SALES ON CROSLEY SHELVADOR MODELS

How many dealers in other lines have worked hard, spent a lot of money, time, and energy developing a profitable local market . . . only to find themselves in the position of competing with their own line in the hands of someone else who is underselling them? Crosley dealers have never suffered this handicap because Crosley has never been compelled to dump last season's models in a desperate effort to change them into accounts receivable.

★ CROSLEY HAS NO OVERPRODUCTION!

★CROSLEY HAS NO LAST YEAR'S MODELS!

Even if we would, we *could* not dump older models on the market . . . because we haven't any!

It is the Crosley manufacturing policy not to overproduce and we could not if we would. The demand for Shelvador refrigerators more than absorbs our peak production. All Crosley Shelvador models are current—sold to the trade at regular prices.

★ DEALER'S MONEY SAFE WITH CROSLEY

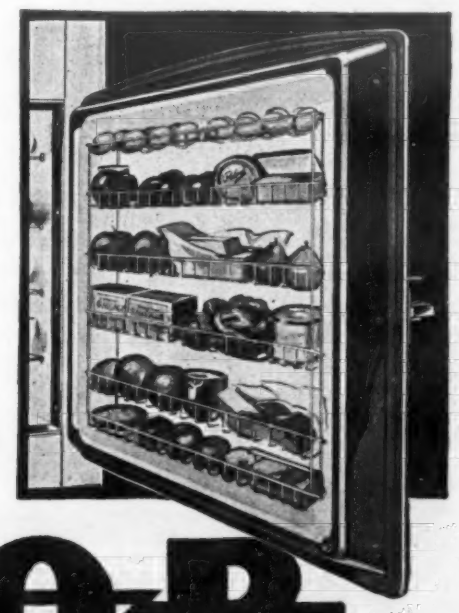
Dealers can confidently stock Crosley Shelvador models. They will always be in demand—at a profit. No danger of dumping. No underselling. No models, old or new, in the hands of competing dealers. Crosley Shelvador models are being sold, will continue to be sold, only through dealers holding the Crosley franchise—the most profitable in the field.

★ LOOK AT THE RECORD

Starting from scratch some four years ago, the Crosley electric refrigerator line has climbed in sales until now it is high among the leaders in the industry. This phenomenal success—unprecedented in electric refrigeration history—is due to a number of things:

1. Crosley has never dumped obsolete models, or any models.
2. Crosley has consistently sold through established dealer channels.
3. Crosley has protected the dealer franchise.
4. Crosley has, of course, produced the one outstanding value in the field—the best money's worth.
5. Crosley has introduced new features (such as Shelvador) that made Crosley refrigerators stand out from competition.
6. Crosley has given the dealers a degree of cooperation that has helped to give them local dominance of the market.
7. Crosley has made Shelvador a national household word by means of advertising.

And these, we submit, are reasons why you cannot afford not to handle Crosley!



THE CROSLEY RADIO CORPORATION - CINCINNATI

POWEL CROSLEY, Jr., *President*

(*Pioneer Manufacturers of Radio Receiving Sets*)

Home of "*the Nation's Station*"—WLW—500,000 watts—most powerful in the world—70 on your dial

CROSLEY SHELVADOR

SPECIALTY SELLING

August Sales Will Result from First-of-the Year Canvassing, Three Caswell Salesmen Agree

By T. T. Quinn

DETROIT—July was a banner month for electric refrigerator sales in the retail department of Caswell, Inc., General Electric Michigan distributor. August, according to all indications, will be as good, if not better.

But a special August sales campaign? Top Caswell salesmen lift their eyebrows in wonder. They don't see why. To them, July and August sales mean only one thing—the rewards of persistent, thorough-going house-to-house canvassing in March, April, and May.

'Controlled Store' Plan

Ever since Caswell's retail organization put into effect a "controlled store" plan last March, sales have been on the increase. The plan, a modification of the "St. Louis plan" employed so successfully by James & Co., General Electric distributor there, divided the city into zones, four salesmen to a zone, with one of them acting as sales manager for the group.

Expensive branch stores were replaced with "controlled stores," for display purposes only, manned by "controlled store managers," to whom zone managers were responsible, and who were in turn responsible to Caswell's sales manager, Paul Lewis.

Sales Well Over Quota

That the switch was successful is explained by the fact that Caswell's sales, never a headache to G-E headquarters, are now 52 per cent ahead of last year's total—and still going strong.

Divided responsibility, "the old Army game," is paying dividends—backed by first-rate salesmanship. But let three of Caswell's Toppers tell the story.

They are Don Wrigley, manager of the Dearborn branch store, William J. Currier, Grand River branch salesman, and W. Price, Grand River branch store manager.

Result of Early Canvassing

Coming from two different buying territories, these three men can be classed as typical of the Caswell retail organization. And, like the rest of their mates, they're in the busy season. If you want their selling philosophy, you'll have to get it on the run.

Here's Mr. Currier, a refrigerator salesman only since spring, but with years of department store merchandising experience behind him:

"My August sales are going to be the direct result of the house-to-house canvassing that I did in the early months of the year.

Careful Canvassing Essential

"Good, thorough, careful canvassing is essential to success in selling electric refrigerators. It's the groundwork of good salesmanship."

How many canvass calls is an adequate total for a morning's work? Six? Seven? Ten?

"I never judge canvass calls by their total. What counts is the thoroughness with which you make each call. The salesman who tells you he's made a dozen good canvass calls a day isn't sticking to the facts.

"He's trying to run up a total—and the chances are he's doing a slip-shod job of most of those calls."

Mr. Wrigley and Mr. Price agreed with this.

"You can't overestimate the importance of that first call," Mr. Price said. "It has to be taken slow and easy. Three canvass calls in a morning, done thoroughly, is all any salesman can expect to accomplish.

Establish Confidence First

"The first call must establish the prospect's confidence in you, and in what you are trying to sell. So you've got to go slow."

"That's right," said Mr. Wrigley. "It pays, if anything, to be a little over-conservative in your first calls. You're selling yourself, as well as your product.

"When you make a statement on this first call, be sure that you can cite facts and figures in support of it. Over-statements on first calls lose lots of sales.

"Build your sales slowly, until you've established the prospect's confidence in you, as a salesman. If you've done that, you're half way through the sale. Selling whatever you've got to sell is easy."

"Selling on canvass calls isn't hard, if you can win the prospect's confidence and get him to see that you're trying to save him money," chimed in Mr. Currier.

"Show him the savings, and he'll buy.

Shows Savings, Item by Item

"Why, a few months ago I made a cold canvass call at a home in my territory. And it really was a 'cold' call. I was almost frozen, and I went into a detailed sales talk mostly because I wanted a chance to warm up. Ordinarily, you don't try for a sale on the first call.

"But I got out my pencil and paper, and went into a detailed study, item by item, of the savings which an electric refrigerator would make possible in that home. And I was plenty conservative.

"I let the housewife do the figuring. She told me her meat savings ought to reach $1.25 a week. I made it 75 cents. She estimated $1.25 on savings in vegetable buying and preservation; I changed that to 75 cents, too. She figured $1 on quantity buying; I cut it to 75 cents.

"Well, I could see by that time that my conservatism in estimating their food savings had made quite an impression on the family. So I just went on from there.

"I made the sale before I left the house."

High Pressure Selling Out

Mr. Currier's two companions couldn't duplicate his one-call sale story, but they repeated that it illustrated their contention—that a conservative first sales talk pays dividends in the long run. High-pressure selling, to them, isn't only a thing of the past—it has never even existed.

Price buying? It doesn't bother them a bit.

"The price buyers are the early buyers," they say, in chorus. "And we don't go after them hard, anyway.

"People who buy on price alone usually go to an organization which is featuring price—a mail-order house, for instance.

"And a good many price buyers are what we call 'mail-order house minded'—they've been taught to believe that that's the place to go for low-priced merchandise — and we couldn't stop them if we wanted to."

Stop Several Price Buyers

But all three men admitted that, by getting to some "on the fence" buyers early with the General Electric story, they've cut off several low-price unit sales. They're proud of it—because they think they've done the buyer a favor.

"We talk economy of operation, against the low-cost argument of the 'price' unit," they say. "We don't have to talk quality to anybody—they know it's there.

"Our job is to make the prospect realize that our refrigerator couldn't be built better at any price. 'If it cost $800 to build the best job on the market, that's what ours would have in it,' we tell them.

"We sell them quality and economy—and they soon forget price."

Sales Contests & How to Run Them

NO. 2—'SURPRISE' CONTEST WITH PRIZES OFFERED AT THE START OF THE DAY

By John Kumler

A. B. Racht, a division manager for Holland Furnace Co. (greater Chicago division), has found the following plan highly effective:

Three or four times each year he sends every branch a wire reading something like this: "I have a dandy prize for every individual who gets a sale TODAY."

Nothing expensive (he rarely pays over $1 for them) put up, but he strives to make the items novel and useful, cigarette lighters, automatic pencils, extension cords (his men make furnace inspections in dark basements), and neckties constituting some of the prizes.

It causes the men to thumb their prospect cards pretty carefully on such mornings as this message is received.

And on these days they certainly concentrate on the three or four prospects that they believe nearest the closing point.

Racht says he always has a "sweet" day when he pulls this stunt. He's used this idea for years. He never tells the salesmen when it's to be until they get his wire. He never tells them what the prize is.

But the prize is always something very nice (for the money he spends) and the magic in the stunt lies in the fact that he has never short changed them.

Distributor Offers Limited Number of His Users Chance on Merchandise for Prospect Names

KNOXVILLE, Tenn.—Enrolling of 25 women in a Kelvinator refrigerator and L & H electric range "Health and Happiness" club, and enlisting the members to secure two added refrigerator or range prospects, is the plan for building up August sales swinging into action at the East Tennessee Electric Co. here.

Requirement for membership in this club, explains R. D. Anderson of the dealership, is the purchase of a Kelvinator or a range, and the promise to assist the company in securing at least two new members, from among friends, relatives, or neighbors. No employee of the company is eligible for membership.

When each woman becomes a member of the club she will be given a coupon bearing a number, a duplicate of which is retained at the office in the club chest until the final drawing.

As soon as each of the 25 members has paid in a minimum of $10 toward the purchase of her refrigerator or range, a drawing will be held at which a model K-300 Kelvinator or model 8100-A L & H range will be the prize. The purchase price of the prize will be credited to the winner's account, if she is paying for her refrigerator or range on time. If the credit overpays her account, the overpayment will be paid in cash.

Because this club plan is expected to boost salesman's sales and earnings, $2 will be deduced from the commission on each sale made to the club member, to help cover the cost of the prize.

Marshaled in the form of a "battle" in which inroads were made against sales in an attack on "Fort Quotomo," was the systematized and highly concentrated sales contest carried on by this company during the month of June, which resulted in the sale of 65 appliances.

To banish the demon, "quota," each salesman pledged himself to make 15 "attacks" each day, and from 1 to 3 each night during the month. Each salesman's quota was 10 refrigerators, 5 washing machines, and one range.

At the beginning of the contest each salesman wore a red tie. When he had sold two appliances, this was discarded for a blue tie. This he exchanged, after two more sales, for a green tie. Two additional sales allowed the salesman to tie himself as he pleased.

Each sale entitled the salesman to take a shot at "Fort Quotomo," a gray-paper structure, built to resemble a medieval fort, with a number behind each paper block.

The sales force was divided into two teams. Captaining the Reds was Hugh Jones, who had five men under him. Paul Davis was in charge of the five "Blues."

Prizes of merchandise valued at from $1 to $10 were offered to keep the contestants fighting. Individual high-man prizes, consisting of a Toastmaster and Hospitality tray, a waffle iron, and a small toaster, were also offered. There was also a side bet of $25 between the two teams.

As a finale, the company held a banquet for the entire team, at which the winners feasted on fried chicken, with all its trimmings, while the members of the trimmed team contented themselves with corn bread and peas.

Georgia Power Reports 4,391 Units Sold

ATLANTA—A total of 6,827 units, or 86.4 per cent of quota, had been sold by the Georgia Power Co. at the end of 76.6 per cent of the "Sales Circus" campaign period. A breakdown of the total number is as follows: 4,391 refrigerators, 1,215 ranges, 594 water heaters, 97 water coolers, and 530 commercial jobs.

CELOTEX

IS READY FABRICATED TO YOUR OWN SPECIFICATIONS

MAINTAINS CLOSE DIMENSION TOLERANCES

For more than twelve years leading makers of refrigerators and bottle coolers have used Celotex Insulating Cane Board because of its high efficiency, dependability and economy.

Celotex offers many practical advantages to the mechanized refrigerating unit industry. It is waterproofed, odorless, sterilized and sanitary—it subdues noise—all points of vital importance.

Special To Cabinet Makers—Celotex is a strong but light constructional material. Easily applied. Pre-fabricated at Celotex Mill with close dimension and thickness tolerances, to your specifications.

Remember, all Celotex Cane Fibre Products are manufactured under the Ferox Process (patented) and therefore effectively resist damage by Fungus Growth, Dry Rot and Termites (White Ants).

We invite consultation with our Celotex refrigeration engineers. No obligation.

THE CELOTEX COMPANY

919 No. Michigan Avenue Chicago, Illinois

CELOTEX BRAND INSULATING CANE BOARD Reg. U. S. Pat. Off.

BUILDS • INSULATES • DECORATES • SUBDUES NOISE

Let Ansul Sulphur Dioxide and Ansul Methyl Chloride show you how they perform. They're guaranteed to please for every cylinder is given an individual analysis before it eaves the plant.

ANSUL CHEMICAL COMPANY

MARINETTE » » » » » WISCONSIN

SPECIALTY SELLING

Making Sales Ladies of Users through Bonus for Leads Helps Los Angeles Firm

LOS ANGELES — Making sales ladies of every purchaser—the plan of paying commissions to old customers on each sale made to prospects turned in by the customer—has enabled the Metro Radio & Electric Co. here, to sell 500 electric refrigerators up to July 25 of this present season, a substantial increase.

Prizes of $5 to $10, according to the total amount of the unit sale, offered to buyers, make them willing boosters. This plan, and the policy of never misrepresenting a fact or a unit, has built up a quick turnover business for this establishment, declares Charles Cross, owner of Metro Radio & Electric Co.

Supplementing this use-the-user program, the company advertises in the neighborhood newspapers. Best results in advertising come from personally written letters to old customers and prospects alike, Mr. Cross holds.

Two other factors have stimulated sales for the Metro Radio & Electric Co. Purchasers of electric refrigerators, once their machines are installed, use them throughout the year—winter and summer—this is one boosting point. Publicity campaigns which are part of the Federal Housing Act have also spurred sales, Mr. Cross states.

Mr. Cross previously handled all of his own time-financing paper, but is now taking advantage of the low-cost terms provided by the FHA.

To maintain a steady sales volume, other appliances, including electric ranges, washers, ironers, and gas ranges, are carried in this store. Purchasers of one appliance immediately become prospects for other appliances.

"Keep customers on the books," is a definite part of the sales program. The time payment credit plan aids greatly in carrying out this idea.

Purchase of large models even in small families is constantly recommended as part of the sales policy of this organization.

"Nothing so discourages a customer, nor causes so much later dissatisfaction than trying to use a unit that is too small. The smart buyer purchases the larger box," is the opinion expressed by Mr. Cross.

Upper New York Dealer Broadcasts Actual Closing of a Sale over Local Station

PLATTSBURGH, N. Y.—Radio broadcast of the actual 'closing' of an electric refrigerator sale was the stunt recently tried by Bragg Bros., local General Electric appliance dealer. The broadcast was over radio station WMFF.

With a G-E kitchen coach to which the broadcast was hooked up, as a background, the sale was made on a street in Plattsburgh. Warren Burns, kitchen coach specialist for A. Wayne Merriam, Inc., W. M. Page, vice president and wholesale manager, Roy Murdock, commercial installation and service manager, and Ed and Les Bragg, and Mrs. Kelly, the customer, were central figures in this street scene.

Ed. Bragg made the sales presentation and closed the sale to Mrs. Kelly, a sincere and accommodating customer. During the broadcast the announcer stated that there are approximately 1,000 domestic G-E refrigerators in this small town.

Mr. Page, the vice president and wholesale manager, who is also a versatile musician, contributed, by request, a 15-minute musical program on the piano-accordian, the night of the broadcast.

Previous to this part of the program, the announcer jokingly said that "Bill" Page was open for engagements. Following his broadcast, he received a telephone call from a Saranac Lake night club in need of an entertainer.

Two days after the sale-broadcast, Les Bragg and Mr. Page drove to Dannemora where, before noon on that day, they sold five refrigerators to private homes.

'Personal Touch' in Direct Mail Promotion and No Mention of Trade Names Pulls Prospects

LOS ANGELES—That the "personal touch" in circularizing his customers regularly once each year, pays in both refrigeration and radio sales, and overcomes the disadvantage of an unfavorable location, is the opinion of Walter Kramer, proprietor of the Standard Radio Co. here.

Instead of mailing out a general mimeographed or printed letter, this company sends individually typed letters which mention the article the customer purchased and the date of purchase. The letter further inquires if the article sold continues to give service, and requests that the company be given an opportunity to service it, or to display newer models.

This letter also invites the customer's inspection of refrigerators. It does not mention the line of refrigerators (Gilfillan) carried by the dealer, Mr. Kramer figuring that prospect's will have to come in to find out this information, and that then any preconceived ideas to purchase some other model, can be expelled in favor of the make carried in the store.

Because a prospect has purchased his refrigerator or radio years before and has not been heard from since, does not mean that he is eliminated from the Standard Radio Co.'s mailing list. This following-the-user plan quite frequently leads to more sales for this dealership.

Premiums in Hot Months and Use of Individual 'Closing Rooms' Builds Sales for E. A. Barnes

FORT WAYNE, Ind.—Chief aid in building refrigerator sales this summer for the E. A. Barnes Electrical Appliances, Inc., General Electric dealer here, is a premium offered to purchasers of electric refrigerators.

During July, the company offered the refrigerator purchaser a set of three lamps—a floor lamp, a bridge lamp, and a table lamp. Other special offers will be made by the company during August and September, says C. H. Locke, manager.

The company also credits many of its sales to the attractiveness of its store and its modern appliance merchandise display. The General Electric Appliance Mart occupies a three-story building on a good corner.

At the rear of the display room are three closing booths. Two tone-test rooms for demonstrating radio reception are located just off the display floor.

Upstairs is a G-E kitchen where bridge parties are held on an average of three times a week for a group of some 20 women. Here Mrs. Simmers, home economist for the firm, describes and demonstrates appliances.

Salesman Mistaken for Someone Else Just Sits Tight—Leaves with $309 Order!

DETROIT—Quick thinking and a pleasant personality brought Sam Megantz, salesman for Ryal's, Inc. here, an order for a $309 Frigidaire model one afternoon recently, although he spent an uncomfortable moment or two in a "mixed identity" situation.

While "cold canvassing" Mr. Megantz knocked at the screen door of the house where the sale was eventually made, and was motioned to come in and sit down by a man who was listening to a radio broadcast of a ball game.

Mr. Megantz entered, sat down, and engaged the man in conversation about the ball game. He realized instantly that *someone* had been expected there that afternoon, and that *he* had been mistaken for that someone. So he decided to sit tight and await developments.

In a little while the man's wife entered the room and eyed Mr. Megantz.

"Who are you?" she queried.

"Why isn't he—?" asked the somewhat bewildered husband.

The mystery was cleared up in good-humored fashion in a few moments, the wife explaining that they were considering the purchase of a new automobile, and that she had told the automobile salesman to call that afternoon. The husband, not having met the automobile salesman, took Mr. Megantz to be the man.

It wasn't very hard for Mr. Megantz to tell *his* story after that, and when he found that the couple had been thinking of buying a refrigerator for some time, but just hadn't got around to making a decision, it wasn't long before he walked out with the signed order.

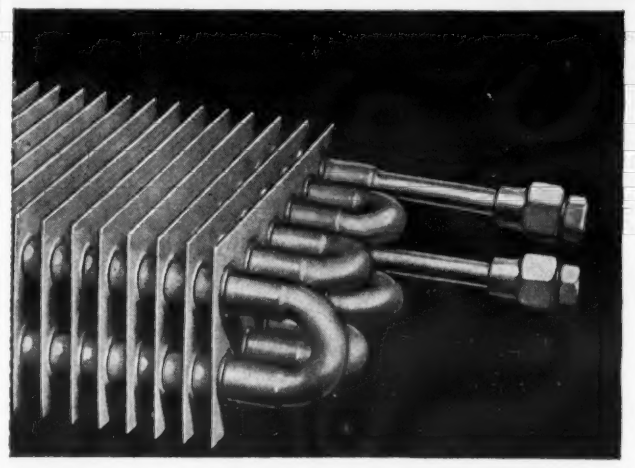
Every prospect is **YOUR PROSPECT**

when you standardize on **FEDDERS**

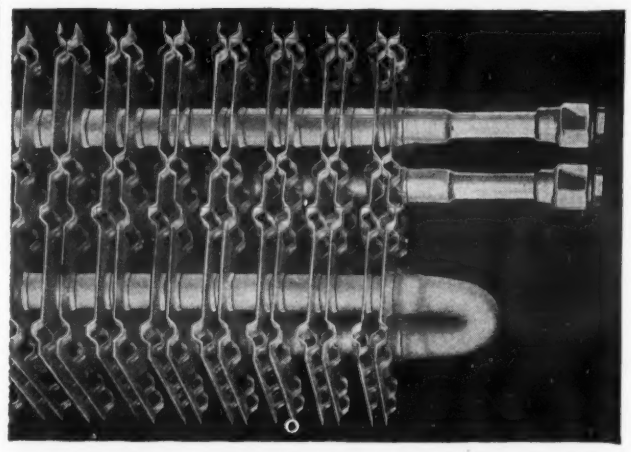
4 *. . . complete lines of*

FLAT FIN
FLUTED FIN
FED-R-FIN
FINLESS COILS

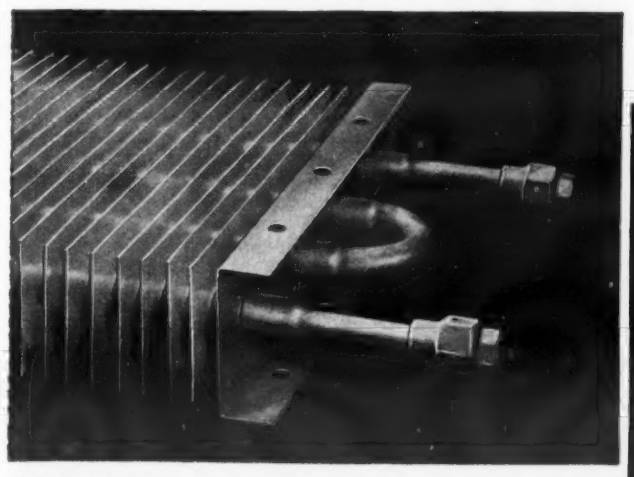
Patented and Patents Pending



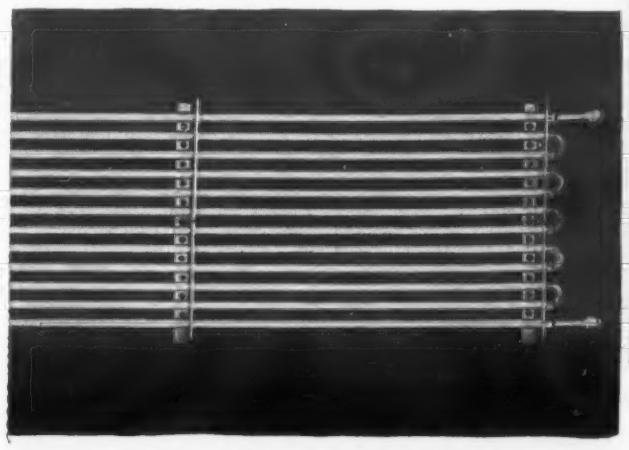
FLAT FIN Fedders Flat Fin coils are made with fin heights as shallow as 1¼". They are especially adapted for display cases or where very low coils are needed.



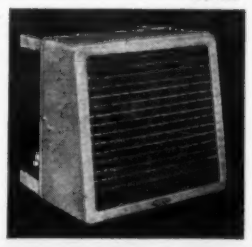
FLUTED FIN Made in a complete line for every refrigeration need. Exclusive fluted fin design provides approximately 9% more refrigerating vertical fin surface per cubic foot of air.



FED-R-FIN Fed-R-Fin coils are made in any desired length, complete with mounting brackets.



FINLESS Fedders Plain Tube Finless coils give 100% prime surface. They are ideal for salad counters and for replacing brine coils.



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SPECIALTY SELLING

'Dramatized' Sales Presentation in the Showroom Gets Sales for Tulsa Firm

TULSA, Okla.—"To sell electric refrigerators—dramatize them!" declares H. E. Hanna, president, The Hanna Corp. of this city.

So, to dramatize its demonstrations, the Hanna organization has placed a white enameled electric refrigerator on a black-draped platform against a black wall in a small room furnished only with a few comfortable chairs and a soft rug. The dais is hung with curtains of blue silk and indirect lights "spot" the particular refrigerator model which is being shown.

When guests are seated, the demonstrator shuts the door and turns off the room lights, thus focusing attention on the refrigerator in the spotlight.

"In order to sell an electric refrigerator," says Mr. Hanna, "you must first sell the idea of the convenience and economy of electric refrigeration, and in a room such as this, without any outside disturbing influence, you are able to concentrate the entire attention of the prospect and his friends upon these points.

"There is nothing in the room but this one model and some comfortable chairs. The first thing to do is to sell the idea of electric refrigeration. Once that is accomplished, it is a simple matter to select for the patron the type and size best suited to his individual need."

A full line of electric refrigerators, including a model of every size in the line, is shown on a raised platform in the main salesroom of the Hanna company.

"If this entire line had been shown first," stated Mr. Hanna, "the prospect would have so many questions to ask about refrigeration in general, and the model best suited to his wants in particular, that by the time all had been answered he would be so confused he would hardly know what he did want."

Policy of the Hanna company is to clarify the situation by giving the general information that applies to all types, and sell the prospect thoroughly on the idea of electrical refrigeration, before questioning him as to the exact type of refrigerator he wants. Ice refrigerators are not carried in stock by this company, emphasis being placed entirely on electric refrigerators.

The Hanna company has one "outside" man who spends his entire time talking electric refrigerators. He spends several hours on a few prospects each day, rather than make hurried calls on a larger number. The majority of calls are made in the evening when both wife and husband are at home.

"At first contact, our outside man tries to arrange for a store demonstration at any time to suit the prospect's convenience," explained Mr. Hanna. "While we gladly put on this demonstration for one prospect, we prefer to have several and try to arrange for a group demonstration, telling the parties to invite any friends who might be interested—making it plain that this demonstration implies no obligation whatever to purchase."

The company sells on the deferred payment plan, if desired—although the plan is not featured—employing the recognized terms and carrying charges.

"While the outside man handles no other appliances," Mr. Hanna explained, "he makes a special note of the electric equipment in the homes he visits, and these are put down on cards and handed to us. We use our own judgment as to how to handle this list."

'Information Seekers' Are Changed into Prospects by Idea of Phoenix Dealer

PHOENIX, Ariz.—When possible prospects call up for information and refuse to *give* information concerning themselves, salesmen of the electrical appliance department of the Barrows Furniture Co. here, have a little scheme which sometimes turns coy phoners into purchasers.

Working on the theory that one good answer deserves another, the salesman tells the inquirer: "I'd be glad to give you that information but I'm very busy at this moment. I was just closing a deal on a house full of furniture. If you'll give me your phone number I'll call back in a few minutes."

Invariably the prospect gives his number. Then the salesman inquires: "Whom shall I ask for?" Once he is given the name and phone number, it is a simple matter to get the address from the city directory.

The salesman calls back in a few minutes, without making any attempt to promote a sale. That evening, however, he, or another salesman, armed with literature and a demonstrator unit, makes a personal call.

"This has been a profitable source of extra business, because the people who call in are usually ready to buy another unit," explains Advertising Manager H. F. Allen. "Frequently when people telephone for information, they are making a final checkup on other models.

"They don't want to come in, or to give their names, but when a salesman calls on them that evening, he can often get them to change their minds, even though they were about to buy another make.

One salesman of this company has been able to trace six sales directly to this plan.

Wanted-

EXPERIENCE IN MERCHANDISING THRU EXCLUSIVE DEALERS

THIS opening will appeal to a man who, as General Sales or Division Manager, has acquired the experience necessary to establish and organize exclusive dealer outlets for a new product which offers unusual opportunities. Experience may have been gained in the sale of refrigerators, washing machines, oil burners or other specialties, with a high unit sale price.

Rated AAA this manufacturer leads in the fields in which it now operates and is able to give the right man the necessary sales assistance to properly market this new product.

This advertisement is directed specifically at a man who is already a success in his work, but whose present position in some manner limits his opportunities or the satisfaction he derives from his work.

To such a man we offer a real opportunity. If interested, please give us enough information about yourself and your experience to justify us in arranging for an interview.

BOX 719

Electric Refrigeration News, 5229 Cass Ave., Detroit, Mich.

Boston Kelvinator Branch Ties-in with Byrd's Homecoming

BOSTON—Tying up with the homecoming celebrations given for Admiral Byrd and members of the crew of "The Bear of Oakland," the Boston Edison Co. has created considerable interest with a novel window display, featuring the part which Kelvinator refrigeration equipment played in the second Byrd Antarctic Expedition.

Centered in the company's display was one of the two model PK-70 refrigerators which accompanied Admiral Byrd on his trip, photographs of "The Bear of Oakland," and a photostated copy of a letter to Kelvinator's Cambridge, Mass., branch from Stevenson Corey, the expedition's chief supply officer, in which he commented on the dependability of the Kelvinator equipment used.

Kelvinators on Board

In addition to the two household refrigerators, a Kelvinator special commercial installation was used on the Byrd ship. This consisted of two model RB-310 compressors connected to pipe coils for a freezing room, and a room just outside it.

Temperature in the outside room was held at 35° F., while the freezing room itself was kept at between 0° and 10° F. Insulation was of such nature that either compressor could carry the entire freezing load, if necessary. During most of the trip, however, especially through the tropics, both compressors were in operation.

Special Installation Methods

Installation of the compressors was made right next to the refrigerator itself, since space on the Byrd ship was at a premium. Some of the bends in the tubing on the wall of the refrigerator case were made longer than is usually allowed on regular commercial installations—the reason being that it was expected that the "Bear," being of wood, would "give" a bit when it hit the stormy section of the world.

This happened as expected, and the allowances made during the installation permitted movement, without breakage or loosening of joints.

G-E Monitor Top Placed On Sidewalk Attracts Interest of Passersby

DENVER—Basing its sales strategy on the theory that people seldom outgrow the adolescent aim to see "what makes things go," has helped the B. K. Sweeney Electrical Co. here, to double—and then some—its sales of General Electric refrigerators during the past year.

This company placed a demonstrator of the "sealed-in-steel" refrigerating mechanism in the store's entry way just off the sidewalk. It was connected to a store electrical outlet by means of an extension cord.

Guiding the eyes of the passersby to the exhibition was a poster, bearing in large, red-lettered print the message: "Stop! Here is the famous sealed-in-steel mechanism used in the 1935 G-E refrigerators. Five-year guarantee."

Proves Mechanical Appeal's Worth

"This dramatization proved that people are attracted by the mechanical appeal," B. K. Sweeney, Jr., refrigeration sales manager says. "In some cases other selling points are given secondary consideration. Our street exhibit attracted many into the store to ask further questions, and these automatically became active prospects, building our retail sales volume.

"It also gave us a cue for our sales talk, and we proceeded to place the mechanical details first," Mr. Sweeney said.

Three reasons why this sales promotion stunt successfully attracted prospects for five months, as set forth by Mr. Sweeney, are: the moving mechanism attracted attention, the seemingly mysterious operation (the extension cord was not readily visible) excited interest, and the red-lettered sign worked magnet-like on passer's by.

Traveling Display Similar

While this display was arousing the walking-populace's interest, a traveling exhibit, consisting of a similar display mounted on a white-painted trailer, and drawn by a white car, was taking the mechanical sales-promoter to the stay-at-home's through the city streets.

This truck, with large lettered posters enumerating the refrigerator's selling points, was sent out on sales and service calls. On these trips it lured not only the interested prospect, but his neighbors also, out to see "how it worked." While not as dynamically effective a sales-getter as the former method, this promotion stunt, Mr. Sweeney believes, helped to build a larger prospect-list for the B. K. Sweeney Co.

Dealer Finds Competition Softer, People Easier to Sell after 'Season' Ends

By Phil B. Redeker

DETROIT—August means not that the selling season is over but that it's just getting underway, especially this year when definite approval has finally been given to the insurance of FHA loans for unattached electrical appliances, declares R. A. Carlson, vice president of Ryal's, Inc., appliance dealer which operates three retail stores here.

Ryal's is busy now hiring and training new salesmen, and sending them out on cold canvass. A couple of sales contests, running through the middle of August, are serving to keep the sales force "pepped up" in the hot weather.

"We fully expect to do 50 per cent more business in the last half of the year than in the first half," says Mr. Carlson, "and that's not just a hope—it's an estimate based on our experience in previous years."

Ryal's intensive last six months' sales drive is based on two fundamental thoughts: (1) competition slows down and leaves the path clear; (2) the very fact that such intensive selling is being done after the season is apparently over impresses the prospect with the idea that electric refrigeration is a year-'round necessity, a selling theme which Ryal's has used very successfully.

Refrigeration Needed in Fall

"We tell them 'If you don't need refrigeration in the fall, you don't really need it at all' and this argument has been very effective in our late summer and fall campaigns," points out Mr. Carlson.

Salesmen can also hammer away with the better class of merchandise, with the result that the unit price of refrigeration in the last six months is between $189 and $300.

The low time-payment terms and extended payment periods now available have brought in a lot of business that couldn't have been otherwise obtained, says Ryal's vice president.

"Most of these prospects had been thoroughly sold on electric refrigeration," he states. "Why, one salesman closed eight orders in a row, and in not one case did the buyer even ask to see the refrigerator before he signed the order!"

Time Payment Question

One reaction which Ryal salesmen have been getting, when dealing with the insurance phase of the FHA loans, is that many prospects had previously felt that part of the carrying charge rate on the regular type of time-financing was diverted to covering losses on failure of other buyers to meet payment.

Salesmen for Ryal's are thoroughly trained on the matter of time payments, and the FHA loan insurance story.

Salesmen are given the whole city for their territory and are told to seek out new prospects by the "cold canvass" method.

New Prospects Are Best

"The stunt of reviving old prospect lists containing names that were once 'dropped' may be all right in smaller communities, but it won't work in the larger cities, because too many things can have happened—the prospect losing his job, moving, buying another make, etc.," relates Mr. Carlson. "In fact I believe that attempting to get salesmen to work such lists would constitute a waste of time.

"We've had numerous cases where the salesman called on a totally new prospect to find them ready to buy. Although the ground may have been laid by some competitive salesman, the 'cold canvassing' salesman who arrives at the psychological moment gets the order."

Two Contests in Progress

Under the direction of Salesmanager Frank Buten, two contests for salesmen are now in full swing at Ryal's stores.

A six week's "Dress Up" contest which ends the middle of August gives the men a chance to add to the size of their wardrobes.

To qualify for the contest, each salesman had to do $500 worth of business. For the next $500 worth he got a necktie, another $500 a shirt, next $500 a hat, then for another $500 a pair of shoes, and if he added another $1,000 worth, he got a suit of clothes. These prizes, of course, are in addition to the regular commissions.

Also going is another contest, in which quotas have been set for the various branches. Goal in this contest is a day's boat trip and outing, with all the trimmings. In order for the branch to go as a unit, it must make the quota established. However, star salesmen of a branch which fails to make its quota will not be penalized, as they can go along if they make their individual quotas.

According to Mr. Carlson, prospects appear to be interested chiefly in two things about a refrigerator this year: appearance, and a reputation for long and efficient service. "Gadgets," he says, apparently aren't as important as they were a year ago.

Mr. Carlson also states that mail order competition, considerable of a factor in the spring, has almost vanished. Prospects very rarely mention mail order models now when discussing competitive makes, he says.

Need for Service Department

A firm believer in the policy of maintaining a service organization, Mr. Carlson thinks that dealers who don't have their own service department wind up with a lot of dissatisfied customers and a poor reputation.

"Many service calls," he contends, "aren't really service calls at all—they only represent the customer's dissatisfaction with the particular refrigerator which he has installed in his home.

"If the distributor's service man or an independent service man handles such a call, he isn't going to report the customer's dissatisfaction to the dealer, and the result is a disgruntled user.

Complaints of Users

"It may sound funny, but more people than you can imagine take quite a dislike to the particular refrigerator which they have in their home, even though there may not be a thing wrong with it.

"A number of things may be the cause of it—the box may be too small, it may not have all the 'gadgets' on it that the owner would like, or he may have a prejudice against it that he just can't explain.

"The user has no grievance against electric refrigeration, and the trouble can usually be remedied by installing another refrigerator. But if you never hear about the customer's dissatisfaction, you can't very well do anything about it.

"Also, the owner will tell you if he doesn't like the work of your service man, but he won't if some other party handles it.

"I have nothing aganist service by the distributor—in fact, we use it to supplement our department, and thereby can provide 24-hour attention to service calls, but I have our own department check most of the calls made by the distributor's man.

"This impresses the client and often results in leads for the sale of other appliances."

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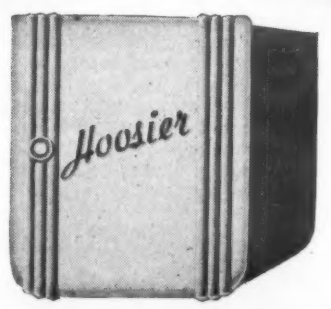

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Norge Salesmen Tell How They Get & Classify Prospects

Editor's Note: This year Norge has been putting in the hands of its salesmen a unique Sales Training Manual. It consists of extracts from letters written by Norge salesmen themselves in answer to questionnaires.

These questionnaires were designed to get the exact procedure followed by leading salesmen in selling a refrigerator—tracing every step from finding the prospect to closing the deal.

Editors of the NEWS felt that this big, thick book represented a piece of monumental research; and obtained the permission of Advertising and Sales Promotion Manager James Sterling of Norge, and Vice Presidents Corry Faude and Gerald Stedman of Cramer-Krasselt to summarize some of the findings.

This article is an attempt to condense, extract, and correlate some of the many practical principles which may be found in this work.

BEST sources for prospects, according to the Norge salesmen queried, are friends, acquaintances, owners, store customers, cold canvass, selective canvass, telephone canvass, and group solicitation.

Other important prospect sources include leads obtained through the service department, noticing the ice cards and icemen, straight house-to-house canvass, business acquaintances, and new tenantcy.

The dealer can help the salesman in prospect finding by covering the reachable neighborhood with localized publicity in addition to company advertising and promotion. A mailing list may be obtained by defining the neighborhood within reach on a city map, isolating families within the area by referring to the city directory, and eliminating those without telephones by reference to the telephone book. This list may be circularized with letters, mimeographed bulletins, mailing cards, and other promotion stressing the refrigerator advantages.

Errors in Finding Prospects

Salesmen often commit one or more errors in prospect finding. If they avoid the following five principal errors, they may be reasonably sure of finding an adequate number of prospects.

1. The salesman may have the wrong motives. He may be more interested in getting than giving. If he feels that he is doing a public service by interesting everyone he meets in the benefits of electric refrigeration, he will talk to everycne about his product and thus gain a feeling of self-confidence and responsibility. This removes timidity, one of the drawbacks in prospect finding.

2. A salesman is often defeated by using too many methods. There are 56 sources from which to find prospects (such as marriage license records, voting lists, classified advertising, etc.). The salesman would do better to concentrate on a few prospect sources rather than work on all 56.

3. He should remember that a prospect is apt to appear any time and anywhere. Many salesmen fail because they are not alert to the possible prospect when they meet him unexpectedly.

4. The salesman may rely too much on himself to find prospects. He would gain multiple returns if he kept a group of friends and users constantly digging up prospects for him.

5. He may neglect to provide a planned supply of prospects for a given number of demonstrations each day. The number depends on the character of the prospect and the ability of the salesman to sell.

Prospects from Service Men

Several dealers send service men around to refrigerator owners periodically with a checking service. The service man, in the course of checking the refrigerator, casually asks the housewife if any of her friends has seen her refrigerator and expressed a desire to own one like it, and attempts to find out "who."

One successful refrigerator salesman says he watches the papers for marriage notices, stops where he sees a house being constructed or remodeled, watches the paper for death notices which mention that insurance has been paid, and keeps an eye out for claims paid for accidents or other suits.

Another successful salesman, who advocates telephone canvassing, says he makes phone calls from 9:00 a. m. to 12:00 noon and 6:00 p. m. to 8:00 p. m. three or four days a week.

Watching the classified advertisements under the "For Rent" column is a good source of prospects, claims one successful salesman, who says he often persuades the owner to use the phrase "with refrigeration" in his advertisement without actually buying the refrigerator. When the owner sees the results obtained, he often purchases one for himself as well as one for the house or apartment he is renting.

One Man Canvasses Only

One dealer has a man canvassing the entire city the year around. His job is to work up a list of live prospects; then other salesmen close the deal.

Nearly all dealers and salesmen "use the user" as a source for finding prospects. There are various ways of turning users into prospect finders. Some dealers offer merchandise prizes, others offer certificates, and a few offer cash prizes.

It has been found that the user is frequently of more assistance during the first three months after purchase, because ownership is new and feeling of pride is strong. The salesman should keep in weekly contact with the buyer for at least three months. He can get from the user a list of acquaintances who have shown interest in the purchase.

A selective canvass may be made to preferred lists such as doctors, dentists, professional men, wage earners in a certain factory, etc. A telephone canvass by the salesman's wife is another form of selective canvass.

The successful salesman has the ability to judge and classify prospects so that he may know the best appeal to each type. He should be able to make a prospect *realize* what electric refrigeration can mean to him personally. That realization comes through demonstration, and is created in the first place by an appeal to the prospect's individual temperament and peculiarities.

Peculiarities among prospects should be judged in relation to difference in reactions between sexes and among types. The same selling technique should not be used on both husband and wife in making a sale, due to sex differences in reactions.

Outstanding sex differences include the following:

Women are more sensitive to taste, smell, color, and pressure than men. Eye appeal means a lot to a woman.

Women are moved more by emotion than by logic. They act more in accordance with their feelings. Due to her emotional pattern, woman is much more interested in buying than in selling; man on the other hand is designed by nature to be the salesman.

Women like change—the salesman should appeal to her love of variety by pointing out the contribution which an electric refrigerator would make to her kitchen.

Although there are bound to be differences among individuals, people fall generally into certain classifications. Feminine classifications include:

The *touchy customer,* who is tired, nervous, impatient, needs quick and efficient service. With this type, the salesman should never argue, be calm and agreeable, and show consideration and attention.

The *critical customer,* who may be a fault finder or an intelligent buyer, is hard to please, but once sold is almost always a satisfied customer. The salesman should be convincing and energetic when selling this type of woman.

The *snobbish customer* may attempt to patronize or belittle the salesman, who in turn should be calm, dignified, and treat everything she does as perfectly natural.

The *meek customer* who is afraid to make a decision, is usually gentle and soft spoken. The salesman should be friendly and sympathetic and gain her confidence.

The *indecisive customer* who doesn't know what she wants should be treated with firmness and positiveness. Her hesitancy is caused by fear of buying the wrong article. The salesman should not confuse her by showing too many models.

The *"bargain hunting"* type of customer seems interested only in price. She haggles about the price, asking to be shown something cheaper and mentioning comparative prices of other models. With this type of customer, the salesman should build up realization of the fact that plus values of the refrigerator make price relatively unimportant.

Masculine classifications may be divided into seven groups:

The *quick, impulsive type* is characterized by jerky actions and rapid speech. He should be handled speedily. The salesman should select a few outstanding features of his product and get them across in a hurry.

The *deliberate type* is characterized by slow, poised actions and speech. The salesman should go over every feature in detail with this type, and should never rush him.

The *irresolute type* usually wants to see every model in the line. The salesman's cue is to get the prospect's mind on other things than immediate selection of a model. He should talk on exclusive features and he should talk with assurance. It would be wise to cite some local user as testimony.

The *resolute type* is characterized by a confident expression and bearing. The salesman should consult him on all important points. The sales conversation should be from his angle—he should be allowed to sell himself.

The *conversational type* is liable to sidetrack the sales presentation unless the salesman can get him into some body action, or interest him so thoroughly in the refrigerator features that he will forget his stories and gossip.

The *silent man* is morose and grouchy in action and expression and is often selfish. The salesman should stress the pleasures the refrigerator would give the prospect personally and its money saving power.

The *cynical or suspicious type* of masculine prospect should be sold through proof selling. The salesman might use the "Yes, but—" method of selling, that is, he may agree with some of the prospect's doubts and fears and proceed with his selling argument.

Four calls are usually enough to close a sale, and it is wise for the salesman to drop each month those prospects on which four calls have been made. Re-calling on these prospects is a waste of time and energy. An occasional telephone call will suffice to keep the salesman in touch with the "inactive" prospect.

A simple prospect record or file would aid the salesman in following up calls efficiently. A small file indexed for each day of the month could be used. White cards listing important selling facts such as name, address, telephone, occupation, prospect type, number in prospect's family, etc.—are placed in the file for the proper follow-up dates.

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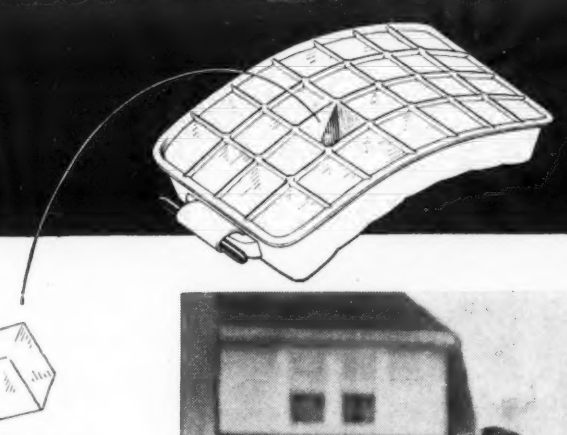

"COLD FACTS"
No. 9

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Prospect: "Yes, my refrigerator gives perfect satisfaction, but I do wish we had bought a model equipped with some of those Flexible Rubber Trays."
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ELECTRIC REFRIGERATION NEWS

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5229 Cass Ave., Detroit, Mich. Telephone Columbia 4242.

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VOL. 15, NO. 16, SERIAL NO. 334, AUGUST 14, 1935
This Issue: 15,000 Copies

Fright Advertising

ADVERTISING frequently has more effect on dealers and salesmen than it has on consumers, even though it may be directed to the latter class. Particularly does this seem to be true in the case of price advertising. Biggest reaction when a retailer advertises a cut-price sale on electric refrigerators generally does not come from a scramble of eager bargain hunters, but from the clamor of indignant and upset competitors. And all too frequently such reaction leads to retaliatory price-cuts on the part of other retailers.

Experience has shown that this "meeting the price" is frequently unjustified. The dealer who stands pat on his established list prices claims that he loses relatively little business as a result of the "sale price" which a competing retailer has advertised; whereas those dealers who have cut their prices in accordance, if they do get additional business, register smaller profits than they would had they stuck to their original prices.

Lower Prices May Not Boost Sales

Not long ago the sales manager of a large refrigeration supplies manufacturing concern told us about the uproar caused down in New York a few months back when a mail-order jobber began advertising a certain refrigeration part at a below-list price. New York City jobbers immediately began demanding longer discounts so that they could meet the mail-order price, claiming that the mail-order house would get all the business.

This sales manager knew that the mail-order house was getting the same discount as all the rest, and that he was merely making a "leader" out of this particular item. He checked up, and found that the mail-order house had sold about $20 worth of this item in New York since his catalog had arrived there, while local jobbers' sales of that item ran into several thousands of dollars during the same period!

Advertising Terms Competitively

This season a new form of fright advertising has appeared in the industry: advertising of *terms*. Once-upon-a-time the 25-cents-a-day meter plan of payment was looked upon with consternation by electric refrigeration sales organizations. Today the 25-cents-a-day plan isn't even worth mentioning, it seems. The ante first dropped to 15 cents a day, and this spring and summer various dealers have chiseled odd pennies off this rate until advertisements heralding daily payments of 14, 13, 12, and even 11 cents a day have appeared to worry other dealers.

It is the contention of some of the more constructive minds in the industry that all this brand of advertising does is muddy the waters. It is "fright advertising," they maintain, the type of advertising which upsets competition (and brings retaliation in kind, endangering the profits of everybody concerned) without increasing sales to any great extent.

After all, these leaders argue, if a dealer is selling refrigerators, he should advertise *refrigerators*—not *terms* or *price*. If he pays out his good money for newspaper space, he should use it to tell the public about the product he is offering, rather than to stir up a battle of prices and terms with competing dealers—a battle which cannot help but undermine public confidence in the product, and in the dealer as well.

Selling '1934 Models' in 1935

A third practice which hasn't put the industry in a particularly flattering or favorable light this year is challenged in the Crosley advertisement on page 3 of this issue. That is the practice, begun in 1933 and 1934, and followed even more this year, of selling last year's models at cut price. It is said that thousands of "1934 models" have actually been manufactured in 1935 to satisfy the demands of retailers who pursue this type of merchandising.

Such sales, it is believed have been induced by the "fright advertising" of Sears Roebuck, which undercut prevailing prices on 6-cu. ft. models. This advertising worried and scared numbers of competing retailers. Sales of "unused 1934 models" then followed in order to meet this competition. Obviously this retaliatory measure didn't hurt Sears Roebuck. Its chain department stores had a specific number of contracted-for refrigerators to sell, and this number was sold out by midsummer, despite the "1934 models." The retailers who wanted this type of merchandise merely sold refrigerators at less (if any) profit than was rightfully theirs.

Better Selling Methods Needed

Two wrongs do not make a right. And the answer to shoddy merchandising is not more shoddy merchandising, *but better selling*. Articles in this issue of the NEWS, and in succeeding issues (all four August issues of the NEWS are especially devoted to the latest developments in specialty selling methods) will help point the way to all who read and study them carefully.

WHAT OTHERS SAY

Give Business a Chance

IT was left to the United States Chamber of Commerce to inject the only note of realism we have detected in the strangely vague discussion at Washington of the pending tax bill. When the Chamber's representative at the Finance Committee hearing opposed the pending bill because it "would not balance the budget," Senator Harrison asked him whether his organization would favor a tax bill now that "would balance the budget."

"The chamber," replied this individual, "favors continuance of the present law and giving business a chance to increase its income; then the present law will give you all the revenue you want."

That is precisely our view of the budget situation and is, in our opinion, the only realistic view that may be taken of it.

Balancing the budget now, or at any time while relief needs remain at the existing level, would require a tax bill to produce a minimum of $1,500,000,000 a year. Probably the country could stand such an addition to the tax burden, but its enactment and collection certainly would delay business recovery. That would hold back the potential productivity of the existing tax structure and also would tend to continue the very need for relief expenditures which has brought the budget out of balance.

The same objection applies to the pending bill, even though this is designed to raise only $250,000,000 a year. It may be the fairest and best tax bill in the world; yet these new taxes, particularly the corporation taxes, are sure to have a certain amount of adverse effect on business, on collections under the existing law, on employment and, therefore, on the Government's expenses for relief of unemployment.

If the Government's credit actually were in danger or—what probably amounts to the same thing—if business were showing no signs of improvement, then a need for additional taxation for revenue might be argued. But the present tax law, even in the last fiscal year, already has been producing enough revenue to effect an approximate balance of the budget, minus the emergency or relief expenditures. This revenue was much larger than that collected, with the same tax structure, in the preceding fiscal year and an even larger future productivity of the present law is as sure as sunrise, provided business continues to improve.

Since each advance in business activity also reduces Government expenses, it seems evident to us the only realistic attitude toward tax revision of any sort at this time is precisely that voiced by the United States Chamber's representative.—*Detroit News.*

LETTERS

Sticking with C. I. T.

Whalen's Sales & Service
Alamo, Texas

Editor:

Regarding your editorial on better terms and lower financing rates we would like to ask if it is wise to dangle low interest rates to the prospect through the FHA and then have the deal turned down and have to rewrite the contract with one of the legitimate finance companies. Personally we do not think that it is wise to do this.

Our experience with FHA is very sad. We sold a few boxes using their plan only to find that for some reason or other the contracts were not acceptable and we had to send them in to an old line finance company. Naturally as we had quoted a 5 per cent interest rate we had to stand the difference. Every deal turned down by Bancredit was accepted by C.I.T. Corp.

We don't believe that a few dollars in lower finance rates will help much on sales. The rates now charged by the big companies are not excessive and with the three-year plan available gives a dealer all he needs.

Dealers should stop look and listen, before doing much FHA promotional work because after all it has been the big finance companies who have made possible their success in the refrigerator business and we all know that sooner or later Santa Claus is going to shut down in Washington and then the companies like C.I.T., C.C.C., and G.M.A.C. will be our only outlet and the public will have to be again sold on regular terms.

We have been doing business with C.I.T. through the San Antonio office for five years and we know that there is no governmental agency that could possbly give us the service that this office has. We are sticking with them.

Assuring you that your paper is the law and gospel around this store we remain,

W. L. WHALEN.

Answer: The editorial in question pointed out that lower interest rates are available this year through nearly *all* time payment financing agencies.

Although the lowest rates of all are sometimes offered by agencies operating in conjunction with the FHA, many distributors and dealers, like Mr. Whalen, have preferred to keep their fingers out of any pie baked (or half-baked) by the present administration.

Patterson Story Helpful

Diesel Power Engineering Schools
Diesel Engineering Instruction
3320 20th St., San Francisco

Editor:

I wish to say that we consider our subscription to the ELECTRIC REFRIGERATION NEWS a very fine investment, and the men in the Technical Department tell me that they get some very valuable suggestions and informative material from this source.

I am particularly interested in the Patterson articles which are running at this time, and I am advising all of our registrars and others connected with our sales force to read them, as they are very interesting and I believe productive of some very fine selling and advertising ideas.

G. W. MCCORMICK,
Manager.

Unit Make Not a Factor

York Ice Machinery Corp.
York, Pa.

Editor:

A number of our field men have called our attention to the photograph published in connection with your July 24 account of the Chicago explosion, which showed how close Mr. W. C. Twomey was to the compressor at the Mayfair Grill, only five minutes before the accident.

We believe you should make it clearer that the compressor illustrated is not the make or type which was involved in the accident, but was simply used to illustrate your story.

J. T. SCHAEFER,
Sales Promotion Division.

Answer: Naturally the York compressor which appears in the picture with W. C. Twomey, secretary and general manager of the Chicago Airtemp Corp., on page 16 of the July 24 issue of ELECTRIC REFRIGERATION NEWS, is not the one which figured in the Mayfair Grill explosion. That one was blown to bits. The compressor in the picture was simply on the floor of Mr. Twomey's showroom.

Nor does the fact that it is not the same make as the one which was shattered by the blast make any particular difference. Any compressor subjected to the same conditions would have met the same fate.

If your field men don't believe that, Jack, let them try turning a tank of oxygen into a York compressor some day. But please, mister, don't you be there when that happens.

What Is 'Schizoidic'?

Lincoln Sales Corp.
Crosley Distributors
Baltimore, Md.

Editor:

In an article written by Mr. Taubeneck in your July 24 issue he has used a word that I am not at all familiar with and can't find in any of our local dictionaries. The word is "schizoidic." Will you be good enough to ask him to send me the definition of this word.

C. HOWARD BUCHWALD,
President.

Answer: Phil Redeker says that he has been waiting four years for a letter like this to arrive. "At last," chortles Phil, "your word-coining catches up with you."

To tell the truth, the dictionaries we have around Detroit aren't much help in defining "schizoid" or "schizoidic," either. The definitions they give keep passing the buck to some other word, and these words become successively more abstrusely psychiatric (and *there's* a new word for you, Mr. Buchwald!), so that the editor is now as confused as anybody.

Back in the days when we were seriously studying psychology, however, a "schizoid" was an unsettled restless type of introvert who constantly demanded *change* (no, we don't mean a bellhop) because of conflicting inner emotional activities. The word was explained in the first instalment of our John Patterson story as follows:

"These triple-personality babies are what the Viennese psychologists call "schizoids." Because they can never achieve a balance, they fight with everybody else as well as with themselves; and in so doing they change and move a lot of things around that have long needed changing and moving."

More on Capillary Tube

295 Fifth Ave., New York City

Editor:

I have read with interest your issue of July 31, from which I note that a manufacturer's representative of California and a manufacturer from Ohio have requested information on the capillary tube.

In addition to the Crosley company, which has been using the tube for upwards of two years, the Dayton Pump Co. of Dayton, Ohio, who likewise manufacture the Buckeye machine, have constructed quite a number of units employing this device, while the Apex company has used this regulator in a small model. At least six other manufacturers are now experimenting with the tube.

In closing I would like to compliment you on the thoroughness with which you obtain the refrigerating news each week and to assure you that I find it most helpful and valuable to me.

I. L. RICE, JR.

Refrigerator Ratings

People's Hardware Co.
Gravette, Ark.

Editor:

We are desirous of obtaining data on the efficiency and rating of various standard electric refrigerators.

We have heard reports of tests conducted in which some makes were below other standard makes in efficiency.

We have not been able to obtain any such information so far and so are writing to see if you can furnish any information on such comparative tests.

F. E. HAMMER,
Refrigeration Service Dept.

127 Lorenz Ave., Dayton

Editor:

Some organization has run tests and tabulated the results on household refrigerators showing the kilowatts per month under various household conditions pertaining to humidity and temperatures.

Do you know who has carried out the above tests?

L. W. PADDOCK.

Answer: Comparative tests have been more or less of a racket for some years. The general conclusion is that they don't mean a thing.

In test data issued by one manufacturer, the Maybecold might rank first and the Notsohot ninth; whereas in another set of data the positions of these two makes are likely reversed.

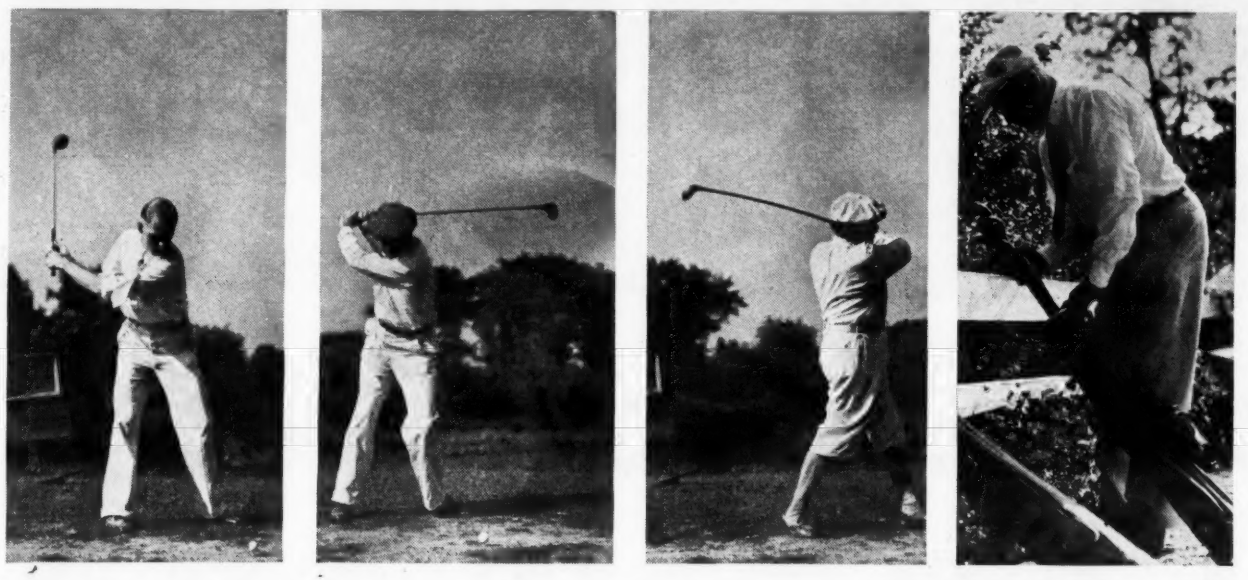
If a certain make doesn't show up well in a test, the manufacturer usually claims that an out-of-date or sub-standard model was used. Much also depends on the conditions of the test, and who conducts it. "Figures don't lie, but liars can figure."

"Please forward us six copies of your issue of March 20, being serial number 313.

"We compliment you on the completeness of the data in this issue; it is most valuable."—Humble & Welch, Inc., 506 Tampa St., Tampa, Fla.

"Being a subscriber of your paper and we are so enthused over the June 12 issue, may we ask that you please mail us, immediately, six more copies and charge to us."—J. A. Early, J. W. Rowlands Co., Lima, Ohio.

Universal Cooler Men Concentrate on Golf for One Day



Universal Cooler Corp. officials in action during the company's annual golf tournament at Warren Valley Golf Club. (1) Bill Higham, chief engineer. (2) R. N. Harger, domestic sales manager, who turned in the day's best gross score. (3) W. D. Rockwell, commercial sales specialist. (4) President Frank S. McNeal.

Advertising Man Sees Peril to a Free Press in Demand that Grunow Copy Be Suppressed

The following letter, written by T. R. Crawford of the M. Glen Miller advertising agency of Chicago, and addressed to the publisher of *Electric Kitchen Times,* comments upon an editorial in the July-August issue of that publication which demanded that legal action be taken to stop Grunow electric refrigerator advertising.

Mr. Crawford forwarded a copy of the letter to the NEWS because reference is made in the *Electric Kitchen Times* piece to an editorial published in a previous issue of ELECTRIC REFRIGERATION NEWS.

Mr. W. F. Henze, Publisher,
Electric Kitchen Times,
Cleveland, Ohio
Dear Mr. Henze:

This morning I received your July-August issue and carefully read the editorial, "Dangerous Grunow Advertising Must Be Stopped."

I have no connection with Grunow or its advertising. But allow me to register an emphatic protest against your theme, since my business is advertising and I represent advertisers. Your editorial suggests an invasion of their rights.

As I understand your editorial, it criticizes the *advertising* done by Grunow. You decide that the *advertising* should be called before some commission, or some sort of governing body, for the purpose of rectifying it. The remedy advocated is to have objectionable parts stopped.

I can draw no other inference from your editorial. You decry Grunow's *advertising;* and then declare that some body, some form of government, should do something about it.

What you actually do is to declare that Grunow should be denied freedom of the press.

I refer you to Col. R. R. McCormick's able thesis on this point. Publishers are not sole owners of the right of freedom of the press. Every American citizen, and therefore every advertiser enjoys the same right.

This should mean, and does mean, that any advertiser can say anything he chooses in his advertisement. He can even be guilty of libel, open to the penalty of suit for damages. But guilt of libel is not grounds for denying the right to print. The freedom of the press remains, at all times, to all persons.

To create a specific example, let us say that Grunow is infringing on competitors in some way. (I do not believe they are infringing.) If this is true, it may be that competitors can sue for damages. But they have no reason for denying Grunow the right to print.

At present there is much discussion and some activity regarding advertising censorship. A sound procedure exists, where any particular publisher rejects or changes an advertisement on his own opinion. He is then acting as the owner of private property, his publication, and is guaranteed the right to act as he pleases. But a procedure which involves governmental bodies, as advocated in your editorial, becomes public censorship and definitely endangers the freedom of the press.

There are in existence laws which definitely allow action on the basis of fraud, libel, or some such type of imposition on or damage to the public. If an advertiser be guilty under such statutes, he can and should be sued or arrested and his advertising may be involved in preventing such fraud, libel, etc., in the court rulings which may be made. But if such statutes are not violated, the freedom of the press should not be invaded to correct a fancied wrong, or to save the public from a possible misinterpretation of words.

Your editorial strikes at a fundamental right enjoyed by the advertisers I assist, as well as every other advertiser. I feel you have made a mistake in presuming that any invasion of these rights can be justified.

T. R. CRAWFORD.

Copy to ELECTRIC REFRIGERATION NEWS.
Copy to *Printers' Ink.*

Advance Orders for S-W Radios Are Large

CHICAGO—Advance orders placed for fall delivery at the national convention of radio distributors recently held by the Stewart-Warner Corp. here, were the largest in the company's history, being 300 per cent greater than at the 1934 distributors' convention, states F. A. Hiter, vice president and general sales manager.

Indicative of probable better market conditions for radio sales, Mr. Hiter added, was the fact that orders placed by distributors for future delivery were in general for the higher priced sets, unit sales averaging, on a retail basis, 30 per cent higher than at the 1934 convention.

Feinstein, McCrea Named Field Representatives

PITTSBURGH—A. E. Feinstein and J. S. McCrea were recently appointed field representatives for the Anchor Lite Appliance Co., reports Harold W. Goldstein, general manager of the Anchor Lite firm.

Mr. Feinstein is representative for the Allegheny county territory. Mr. McCrea is covering the northwestern territory—comprising Beaver, Venango, Mercer, and Lawrence counties.

Eberhardt Display Built Around Model Kitchen

SAN FRANCISCO—A new display room, centered about a model kitchen, was recently opened here by Geo. Eberhardt Co., San Francisco distributor for Grunow refrigerators.

Atwater Kent Resumes Radio Program Sept. 19

PHILADELPHIA — The Atwater Kent program, one of the pioneers in the field of commercial radio broadcasting, will return to the air over a nation-wide Columbia Broadcasting System network on Thursday, Sept. 19.

The program will be heard weekly, from 8:30 to 9 p. m., Eastern daylight saving time. In addition to entertainment, the program will promote the sale of Atwater Kent electric refrigerators and radios.

EARNINGS

Kelvinator Corp.

For the nine months ended June 30 Kelvinator Corp. reports net profit after depreciation, interest, federal taxes, and other charges of $778,583, equal to 68 cents a share on 1,147,107 shares of no-par common stock, compared with $1,212,421, or $1.09 a share on 1,108,818 shares in the similar period of last year.

For the quarter ended June 30 net profit amounted to $711,608, equal to 62 cents a share on 1,147,107 common shares, compared with $357,297, or 32 cents a share, on 1,110,068 shares in preceding quarter and $1,248,839, or $1.12 a share, on 1,108,818 shares in the second quarter of previous year.

These figures do not include earnings of Refrigeration Discount Corp., a wholly owned subsidiary, whose profits are customarily taken as a dividend at close of fiscal year.

Cutler-Hammer, Inc.

For the six months ended June 30, 1935, Cutler-Hammer, Inc., reports net profit, after taxes, depreciation and other charges, totaling $221,438, equal to 67 cents a share on 329,600 shares, compared with $105,489, or 32 cents a share, in the first half of 1934.

THE BEER COOLER HAS GOT TO BE GOOD

★

These real hot days drive the thirsty customers to the bar in encouraging numbers. But if the dispenser is trying to get along with just an average beer cooler, his increased patronage is by no means an unmixed blessing.

The old beer cooler just can't stand it. The beer drawn soon begins to get warm and noticeably flat. Its temperature is not low enough to hold the gas in the beer itself - - - too much foam and too much topping needed. Then some of the customers begin to mention it.

Why should ANY dispenser put up with such a handicap when it is entirely unnecessary. A Temprite Cooler delivers beer at just the right temperature regardless of the weather. It is built for exactly that purpose. That is what "Instantaneous Cooling" and perfect temperature control means.

And the dispenser who uses a Temprite Cooler saves money on refrigeration as well as on beer. But above all, he keeps his customers happy.

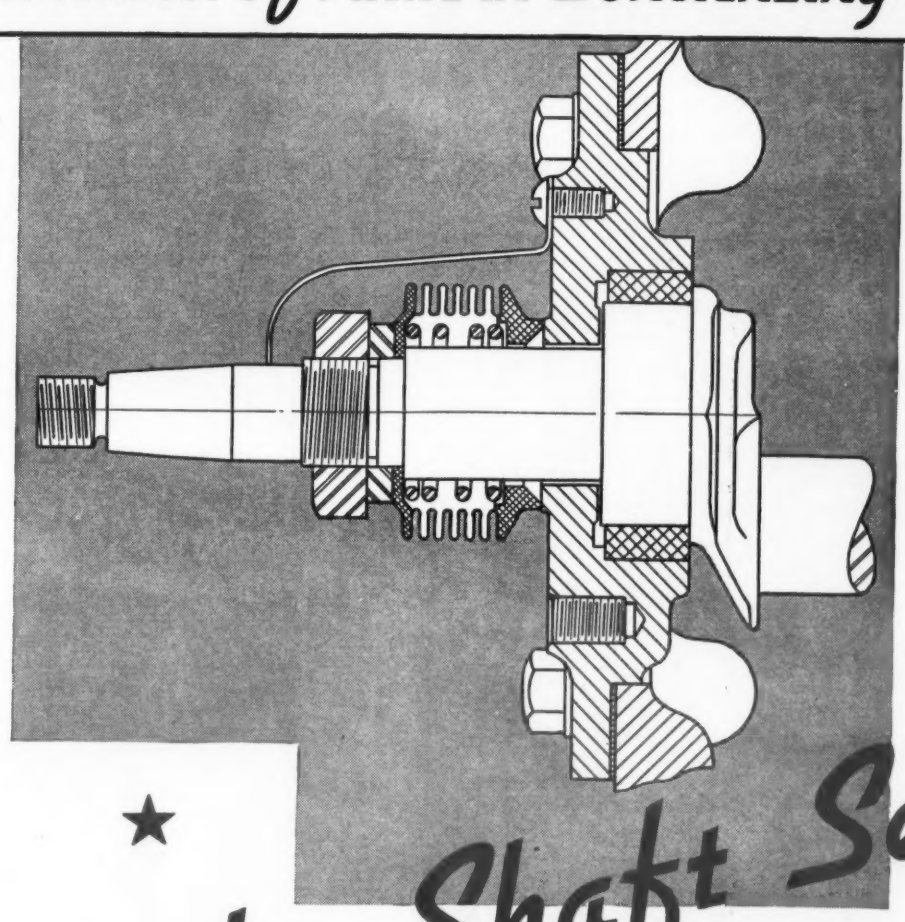
TEMPRITE 80° 40° INSTANTANEOUS

★

TEMPRITE PRODUCTS CORPORATION
1349 EAST MILWAUKEE AVENUE
DETROIT, MICHIGAN

ORIGINATORS OF INSTANTANEOUS LIQUID COOLING DEVICES

PERFORMANCE . . .
the standard of value in Condensing Units



★

the Shaft Seal

SEALING the crankshaft against oil, refrigerant and air leakage is a major problem of condensing unit engineering.

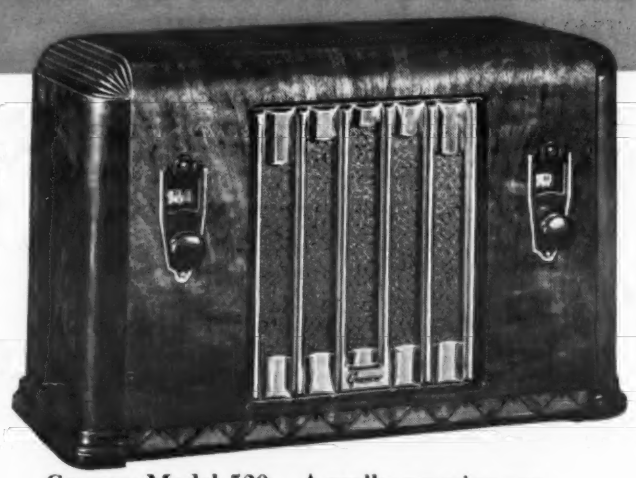
Universal Cooler uses a bronze seal against a lapped cast iron seal face, assuring a pressure tight contact with minimum friction and long service life. The design is such that bearing tension is maintained regardless of variations in suction line pressure.

Refrigeration by Wire

UNIVERSAL COOLER CORPORATION
DETROIT, MICHIGAN BRANTFORD, ONTARIO
MANUFACTURERS OF A COMPLETE LINE OF HOUSEHOLD AND COMMERCIAL REFRIGERATION

TONE-TESTED RESONATOR • TRIPLE SPEAKERS • SUPER HI-FIDELITY • VARIABLE SELECTIVITY • CLASS "AB" POWER AUDIO SYSTEM

Now! . . . GRUNOW
THE LAST WORD
With the Amazing, Exclusive



Grunow Model 520—A really amazing performer for the AC-DC prospect, in a cabinet that sets a new style standard in this field. Lists at **$29.95**
F.O.B. Factory

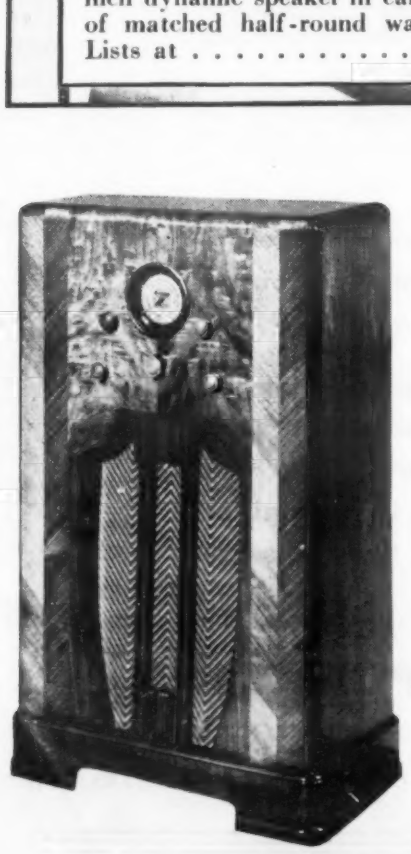
Grunow Model 580—A distinguished roll-over-top cabinet in walnut, housing a fine 5-tube all-wave receiver with full 545-18,000 kc. coverage. Lists at **$39.95**
F.O.B. Factory

RADIO'S GREATEST TONE DEVELOPMENT—A REAL IMPROVEMENT THAT PROSPECTS CAN TOUCH, SEE AND HEAR—HEADS LONG LIST OF SPECTACULAR FEATURES

The 1934 Grunow made radio history. This 1935 line has twice the sales and profit possibilities!

Grunow Model 470—A surprisingly powerful and selective 4-tube chassis with full 8-inch dynamic speaker in cabinet with front of matched half-round walnut. Lists at **$22.50**
F.O.B. Factory

Grunow Model 641—Another outstanding Grunow value is this 6-glass-tube all-wave radio covering 545-18,000 kc., in a really beautiful roll-over-top console. Lists at **$59.95**
F.O.B. Factory



Grunow Model 761—A powerful 7-metal-tube all-wave radio, including weather band, in a cabinet of outstanding beauty. Lists at **$87.50**
F.O.B. Factory

PRICES are slightly higher on the West Coast

Grunow Model 1241—A superb 12-tube Super Hi-Fidelity radio—true all-wave, including weather band—that challenges comparison with sets selling at $200.00 or more. Lists at . **$167.50**
F.O.B. Factory

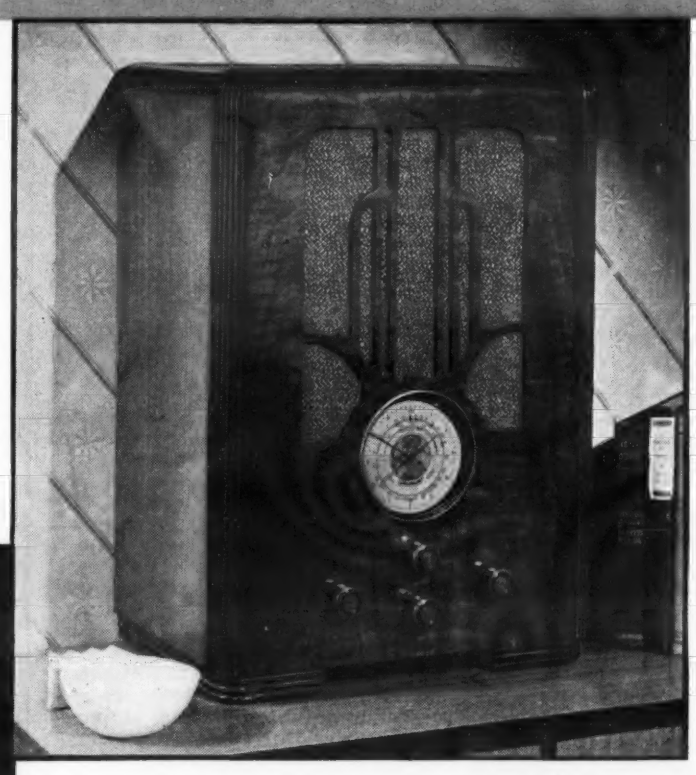
NEW Grunow with TONE-TESTED GENERAL HOUSEHOLD UTILITIES

COMPLETELY SHIELDED CIRCUITS • NEW METAL TUBES • SIGNAL-BEACON • NEW ALADDIN COLOR FLASH DIAL • AUTOMATIC ANTENNA RANGE SWITCH • AND MANY OTHERS

ENGINEERING CREATES IN MODERN RADIO

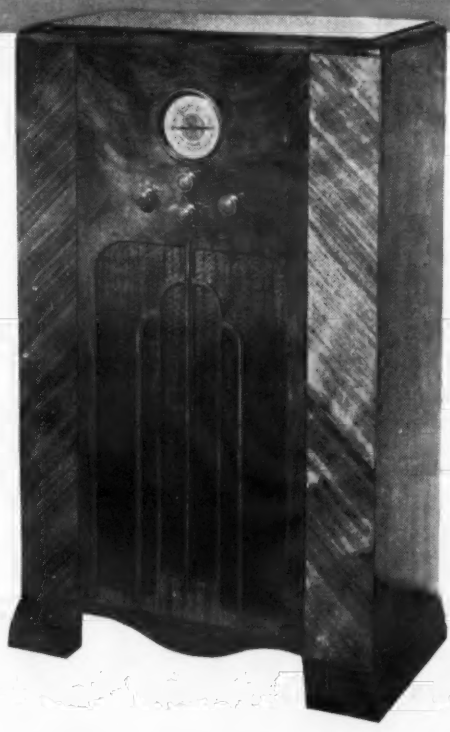
TONE-TESTED RESONATOR!

Beauty, performance, value . . . yes! But bigger still is the magic of true Super Hi-Fidelity tone perfection offered in the amazing new Tone-Tested Resonator. And, again we ask you to *look inside before you buy!* Because real value is built *all through* every Grunow set.



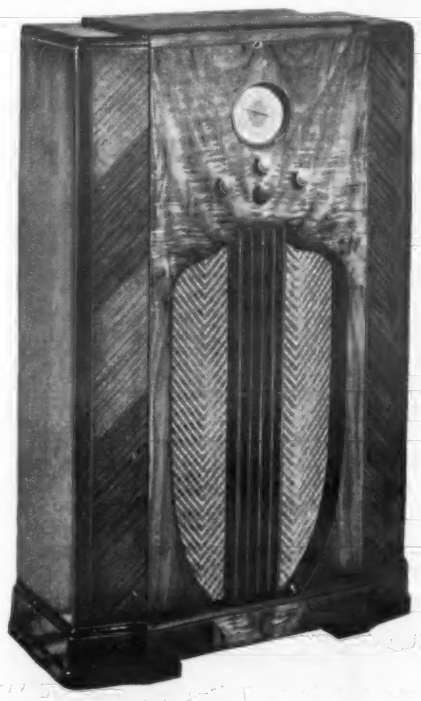
Grunow Model 640—The same powerful all-wave chassis used in Model 641. Lists at . . . . . **$49.95** F.O.B. Factory

Grunow Model 680—Same chassis as 681 in same cabinet as 640. Lists at . . . . . **$59.50** F.O.B. Factory

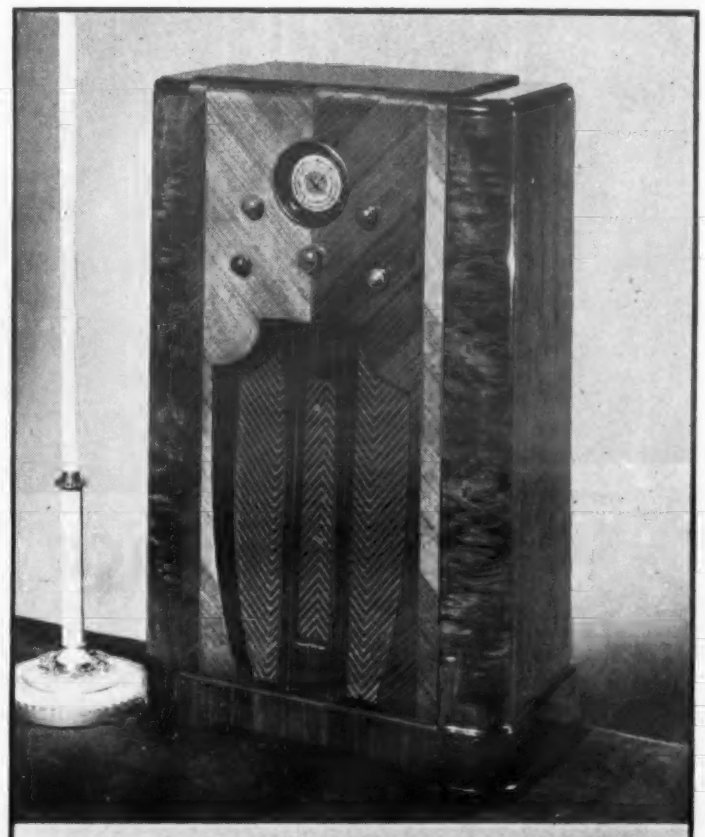


Grunow Model 581—A genuine all-wave receiver—not a skip-band circuit, in a full-sized console worthy of a radio selling for least $25 to $45 more. Lists at **$49.95** F.O.B. Factory

Grunow Model 1171—A cabinet of costly woods housing a powerful 11-tube Super Hi-Fidelity true all-wave receiver with 15 watts output and all Grunow advancements. Lists at **$137.50** F.O.B. Factory



Grunow Model 681—Six metal tubes, Aladdin Clock-Face Dial and many other Grunow features in a world-range radio covering 545-18,000 kc. Lists at **$69.50** F.O.B. Factory



Grunow Model 871—Eight metal tubes in a true all-wave radio covering weather reports, and including Tone-Tested Resonator, Aladdin Color Flash dial, etc. Lists at . . . . . **$99.50** F.O.B. Factory

Also a complete line of fine battery radios

Radio

RESONATOR . . .

COMPANY, CHICAGO

SPECIALTY SELLING

How to Hire & Train Salesmen Outlined in New Book

HOW to find the men who have the natural qualifications for selling; how to train these men to make the most of those qualifications; how to inspire and lead them so that they will be of ever-increasing value to themselves and the company they represent—these things are both the privilege and duty of the manager of salesmen.

While no two salesmen respond in the same way to the same treatment, there are, nevertheless, certain fundamentals in handling men that can be widely and profitably employed.

In "Getting the Most Out of Salesmen,"* John Cameron Aspley attempts to help those who are responsible for sales volume to attain that end through building better salesmen.

Intended for sales managers, rather than salesmen, this volume nevertheless can be profitably studied by salesmen who hope some day to qualify for managerial positions. Senior salesmen getting their first taste of sales management responsibilities will find this little book full of interesting and helpful suggestions.

Leadership Deciding Factor

Leadership is the decisive factor in the success of any sales undertaking. All too frequently, a brilliantly conceived sales plan completely misses fire for want of enthusiastic, courageous execution.

And, strange as it seems, Mr. Aspley contends that comparatively few of those in charge of salesmen in the field today are real leaders. They may be superlative salesmen. They may be good executives. But very few have the rare ability to inspire and lead men in action.

A leader must have courage, self-confidence, daring and boldness—above all, he must be a good soldier, able to take orders as well as give them. He needn't be the best salesman—in fact, such a qualification is sometimes more of a hindrance than a help. Managers are selected for all-around ability, rather than for selling ability alone.

At the top of the list of managerial qualifications is character. Why? Because the character of a business is the sum total of the individual characters of the men who are responsible for its policies and activities.

Keep Eye on Chance

But character isn't all. Second, and perhaps hardest of qualifications to define, is the ability to keep your eye on the main chance. "The most successful managers," says the manual of Henry L. Doherty & Co., "are those who measure every course of action by this yardstick: 'Will it get more business?'"

More business—not only today, but 10 years from today—this is most important now, when selling is becoming more of a service function, and less of a "getting" function. High pressure methods are rapidly going into the discard. Today's star salesman is the man who convinces the prospect that he is there to serve him, to help him with his buying problems. He is the boy who is there with a basket when repeat orders start dropping.

Next to the desire to serve, comes the ability to get things done. Any number of men in sales manager positions have every qualification but this. Most of the time, it is because they don't know how to organize their own work and follow through on the men under them.

The successful sales managers dig for reasons. If a sale is lost, they want to know why—and they don't stop asking until they find the real reason. This extra stress on *why* the sale was lost has a tendency to decrease the number of wasted calls and increase the results per man.

The great handicap of a salesman who has been promoted to a field managership is the difficulty of changing his point of view.

Trouble with many a manager of this type is that he can not get the company's point of view. Instead, he continues to look at problems from the salesman's angle.

Principles in Hiring Salesmen

Certain principles, however, have been developed out of the experience of sales managers in hiring salesmen.

First of these is to "spot" men who are making good in their present jobs, and then sell them the opportunity a position with your company offers, just as you would sell a buyer a bill of goods. But don't make it a horse-trading proposition; don't offer special inducements. Put the emphasis on the opportunity rather than compensation.

Another proven method is through the use of junior salesmen, those "bird dogs" who assist the regular salesmen. Putting the burden of finding the junior squarely up to the regular with whom he is to work usually gets good results—for the older salesman is usually anxious to prove his ability as a "picker," and will, in most cases, choose carefully.

The Fuller Brush Co. keeps its field salesmen looking for likely selling talent, and gives "spotters" a gift commensurate with the new man's production during his trial period. Other companies give cash bonuses.

A third method, effectively used, is to distribute introduction blanks to employment managers, who are glad to recommend likely looking young men whom they cannot use.

Classified Advertisements

A common, but not always satisfactory, method is through classified advertisements. But experience is that only about one out of 10 men hired this way make good. Many professional classified advertisement "answerers" exist. A good way to avoid them is by plain statement of facts. Rely on quality, not quantity, of replies, and you'll get the best men.

Making applicants fill out a standard application blank is another practical means of keeping out undesirable salesmen. Men without good records hesitate to put them on paper. Another way to reduce the field is through medical examinations.

Sales managers know what it takes to make a good salesman. By adroit questioning, they can get a line on the applicant's character, personality, habits, willingness to learn, and courage. Mr. Aspley suggests several questions, and advises several interviews before making a selection.

Salesmen must be picked carefully, for upon their success depends the success of the sales manager.

The first job of any man in charge of salesmen is to get close to his men. For only in this way can he discover their hopes, ambitions, and general aim in life. Every man has some sort of motive, some ambition which makes him willing to work long and hard, under all sorts of difficulties. Perhaps, if he's a young man, he wants to marry. Perhaps he wants a new home, new furniture, or a new car. Perhaps he just wants to "be somebody." Whatever it is, the sales manager must find out—for that's the sure-fire way to make that man produce, and keep producing.

One very successful sales manager has a policy of making every man in the organization ambitious to succeed him. Short sighted? Quite the contrary. That sales manager, if there's a chance for promotion, has a dozen men who can step in and do his work. And if there's a chance for promotion, he'll probably get it—because he has looked ahead.

John H. Patterson believed in never letting his salesmen get too satisfied—he believed that satisfaction slowed them down. So he took every opportunity to encourage them to elevate their standards of living, so that they would want more and better things all the time. Of course, they had to work harder to get them—and they couldn't afford to slow down.

The first and last commandment in getting men to do a better day's work is this: let them know that their efforts are noticed, and that they are really appreciated. Reward them. Money isn't necessary all the time—often a kind word does more good than a $10 raise.

In managing salesmen, as in golf, it is the follow-through that counts. Showing salesmen how to sell isn't all that is needed; the sales manager must see that the calls actually are made. Almost invariably, it has been found that the salesmen who make the most calls make the most sales.

In order to see "at a glance" what salesmen are doing. Mr. Aspley recommends the "call control" system. This should show:

1. How a salesman allots his time between good, poor, and bad accounts.
2. The standing of each account in every salesman's territory.
3. The relative percentage of the line being sold to each account, if a line of products is handled.
4. A check on the ability of the salesman to get top price, if the company's plan allows a leeway for salesmen in setting prices.

Such a system is an effective yardstick by which the sales manager can gauge the effectiveness of salesmen. Of course, in order to operate such a system, salesmen must report all calls made. To accomplish this isn't as easy as it seems.

Salesmen argue that they are paid to sell goods, not to provide the sales department with statistics. And every man who has been a salesman knows how tiring it is to have to fill out a number of reports, after a hard day.

Switching Sales Territories

When all other methods fail, switching sales territories often solves the dilemma of what to do when a salesman gets into a slump. The important thing for a sales manager to realize, says Mr. Aspley, is that the lack of orders is a result of, and not a cause of, a slump.

Initiative, optimism, and enthusiasm are the three vital elements in sales success, and the loss of any one will in itself produce a slump. Smart sales managers start at their own end in diagnosing a slump. They check for faults in their management. From that point they go, slowly, step by step, to the slipping salesmen. Then, and then only, they know the real causes for the slump.

Broadly speaking, a sales organization can be divided into two groups of men, Mr. Aspley says—those who make money for the company, and those who don't. This second group deserves special attention.

One sales manager who has an exceptionly good record divides his study of salesmen into two classifications: the interview before being hired, and the field trial immediately following employment.

If a man doesn't prove up during the field trial, he is rated according to a standard form by this manager; and if he grades below a certain desirable average, he is released immediately. In this way, the company is saved extra and useless training costs, and the salesman is free to make other and more profitable connections.

If the salesman rates well, except in actual production, he is given another 60 days' trial, and a special training course laid out for him. Two out of three men given this second chance develop into good salesmen, in the manager's experience.

While the "hire and fire" method of management may work out with new men, it doesn't with men who have been with the company for years, and who are among the leaders one month and near the tail-enders the next. It is with these men that the sales manager has the best opportunity to demonstrate his ability, by getting them into consistent and profitable production.

Naturally, a sales manager would rather spend his time pepping up his better men, or helping men who are going strong. But most of the time his interference bothers these men, and impedes their work. The "weak sister," however, should appreciate assistance, and profit from it.

Great sales managers, says Mr. Aspley, correct their men's weaknesses, one at a time. Best way to go after a "weak sister" is systematically, studying his situation just as carefully as any important job, involving hundreds of dollars. After a careful analysis of his weaknesses, go about correcting them, one at a time. Merely telling him about them isn't enough—they must be hammered home, Mr. Aspley contends.

The importance of study to a sales manager, as well as to a salesman, cannot be overlooked, Mr. Aspley says. Why, he asks, do the larger companies, like General Electric, appropriate huge sums for study courses? There is only one answer—because it pays. And if it pays the company, it will pay the salesman and his manager.

How Much to Study

What to study, and how long? In general, books which broaden the mind and which show the fundamentals of successful selling in action. Also, books on the technical phases of his business are valuable. In addition, publications which have a direct bearing on their business are frequent sources of valuable selling suggestions.

Rex Cole, New York City General Electric distributor, uses the morning sales breakfast with excellent results. Another, in a business which requires all day Saturday sales work, holds his weekly meetings on Sunday mornings, at an informal breakfast. Best use of the breakfast idea is that it gets salesmen off to an early start, full of enthusiasm for the day's work.

Following are suggestions for conducting sales meetings, by the manager of a large insurance company:

1. Plan each meeting in advance. Know what you are going to do. If possible, have the meetings conform to a weekly or yearly schedule.
2. Start punctually. Don't wait for latecomers. Put a penalty on tardiness.
3. Insist on 100 per cent attendance at all meetings.
4. Take up matters which concern *all* salesmen. Reserve personal problems for private conferences.
5. Keep meetings short; usually 30 minutes is long enough. Stop on the dot.
6. Conduct the meeting with precision and speed. Don't let it drift.
7. Don't do all the talking. Get everybody into it. Turn occasional meetings over to salesmen as a mark of honor.
8. Get as much *action* as possible into the meetings.
9. Try to start off every meeting with optimistic news. A telegram from the home office, comment from a customer, etc., are good examples.
10. Close the meeting with an inspirational talk, basd on facts. If sales are lagging, press for immediate orders.

*Published by Dartnell Corp., Chicago. Pages: 211. Price: $1.50.

Worth-While

This is the longest book review ever to appear in Electric Refrigeration News. The editors believe it justified because, in their opinion, "Getting the Most Out of Salesmen," by J. C. Aspley, editor of the business and industrial publications of Dartnell Corp., is one of the most helpful books of its kind they have ever seen.

The article on this page, while based on some of the findings of the book, by no means covers this invaluable contribution to sales literature—even in outline. It is hoped that reading this review, however, will stimulate interest on the part of industry members in reading the volume itself.

RANCOSTAT

The Stainless Steel Thermostat

PERMANENCE

Stainless Steel was developed in the pursuit of *permanence as an ideal.*

Stainless Steel is used for the base, frame and side covers and other important parts of the Rancostat to insure *permanently* dependable operation.

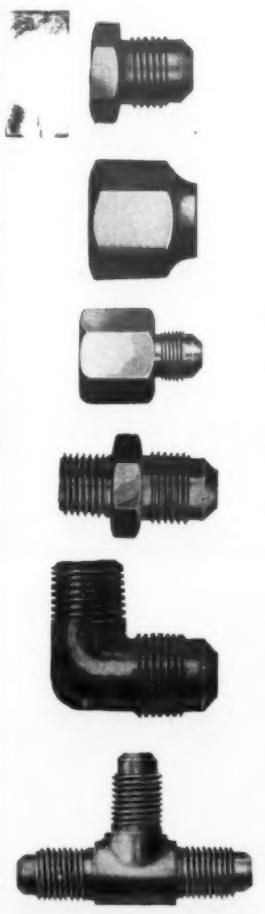
The use of this steel in the construction of Rancostat economizes space, providing ample room for the larger, more rugged moving parts which maintain accurate temperature settings.

The elimination of breakage and its accompanying costs, together with maintained accuracy, has given the Rancostat the quality of *permanence* sought by both manufacturers and users of refrigerating apparatus.

Write for KR bulletin and list of distributors.

THE AUTOMATIC RECLOSING CIRCUIT BREAKER CO., Columbus, Ohio

SPECIALS



In addition to a complete line of standard fittings, illustrations of which are shown here, Commonwealth Brass Corporation produce many "Specials" which differ from conventional designs to meet individual preferences.

Many of these specials are made from stock forgings, others are special throughout.

Being a completely integrated plant, comprising engineering departments, tool, pattern, forging and automatic machine shops under one management we are able to produce any wanted design with expedition and economy.

Commonwealth Fittings are all
BUILT RIGHT TO STAY TIGHT

Quotations promptly on receipt of sample, blueprint or sketch.

COMMONWEALTH
BRASS CORPORATION
Commonwealth Ave. at G. T. R. R.
Detroit, Mich.

AIR CONDITIONING

18 Air Conditioners Sold in San Antonio

(Concluded from Page 1, Column 2)

being in use in buildings of this type. Twelve systems are in use in the city's theaters, nine in restaurants and cafeterias, and eight in private offices.

Other users include department stores, office buildings, clubs, banks, beauty parlors, testing laboratories, a broadcasting station, an auditorium, a broker's office, and a hospital.

A complete tabulation of the systems now in operation, classified according to type of installation, follows:

Residences	18
Theaters	12
Restaurants, Cafeterias	9
Offices	8
Department Stores	6
Office Buildings	6
Clubs	4
Banks	3
Beauty Parlors	3
Testing Laboratories	2
Broadcasting Station	1
Auditorium	1
Broker's Office	1
Hospital	1
Total	**75**

Plug-In Conditioners Developed by G-E

(Concluded from Page 1, Column 1)

evaporator and condenser, including the expansion valve and heat interchanger, are made at the factory, and the necessary charge of refrigerant (Freon) and oil is sealed in at the factory.

There are three of these compressor units mounted in a frame at the lower part of the cabinet.

Upper part of the cabinet houses fans, filters, control switches, and window duct connection. A single motor drives the two sets of fans. One set recirculates air from the room, brings in outdoor air, sends the mixed air through filters, over the evaporator coils to cool and dehumidify it, and then out into the room.

The second set of fans brings in outdoor air, filters it, passes it over the condenser coils and over the drip pan which collects condensate from the evaporators, and sends this heated, moisture-laden air outdoors.

In filtering the condenser cooling air before it flows over the coils, maintenance requirements are reduced, for otherwise the fins on the condenser coils would clog with dirt, the motors would be overloaded and the cooling capacity reduced.

All parts of this self-contained unit are housed in an attractive cabinet, quiet and free from vibration.

G-E's new self-contained conditioner is manually controlled, all controls being interlocked to prevent incorrect operation. It circulates 275 c.f.m. of air. Its refrigeration capacity is slightly less than half a ton of refrigeration in 24 hours.

McCORD
Refrigeration
PRODUCTS
COMMERCIAL EVAPORATORS
DOMESTIC EVAPORATORS
CONDENSERS
METLFLEX ICE TRAYS
SPIRAL FINNED TUBING
AIR CONDITIONING SURFACE
McCORD RADIATOR & MFG. CO.- DETROIT

G-E Will Condition 75 Homes in Capital Subdivision

WASHINGTON, D. C.—The trend of air conditioning which has been so heavily established in Washington, largely through the example and activities of the United States Government, is now extending to home construction in the Capital, with the General Electric Air-Conditioning Institute reporting as the latest development in that field a building program inaugurated by one of Washington's outstanding home developers, in which at least 75 houses will be air conditioned with G-E equipment.

The 75 houses will be built by Waverly Taylor, Inc., architects and builders. They will include all homes in Rollingwood, a 15-house development with a price range from $15,000 to $20,000; all homes in Rock Creek Terrace, 22-house project with a range from $20,000 to $30,000; and at least 38 houses in a third project of 100 homes, ranging from $13,000 to $15,000.

Specially designed General Electric air-conditioning systems will be used exclusively in the 75 houses, which will have as standard equipment year around air-conditioning systems, with the exception of the compressor used to supply refrigeration for summer cooling and dehumidifying. Thus winter air conditioning is assured, and the buyer of the house may easily add summer conditioning whenever he pleases, merely by buying a compressor.

All other equipment necessary for summer conditioning is included in the special central system.

Operated for winter use, the General Electric system to be used in each house will heat, humidify, clean, and circulate air. Each will be equipped with a General Electric oil burning furnace and a special air-conditioning central system unit suspended from the basement ceiling and containing humidifier, filters, heating coils, cooling and dehumidifying coils, and a blower.

The conditioned air will be carried to the rooms by concealed ducts and discharged into them through grilles.

Addition of a compressor for summer use will furnish approximately 1,000 c.f.m. of conditioned air, including 300 of outside air, in each house.

This will provide 24,000 B.t.u. per hour of cooling (equivalent to the use of two tons of ice in 24 hours) with an inside temperature of as much as 15° F. lower than that outside, the maximum difference advisable for comfort and health.

In winter it will supply 90,000 B.t.u. per hour of heat. The air for each room will be completely changed six times per hour in the heating season, eight or nine times per hour when used for cooling.

As the 75 houses will vary considerably in size and other factors, these figures are approximate and apply to an average house typical of all. All controls for the system will operate automatically.

The three developments are in the wooded Rock Creek Park area, within from 15 to 20 minutes' drive to the White House. The Rollingwood group will be a modern interpretation of Normandy in design, the Rock Creek Terrace houses modified Colonial, and those in the third project largely Colonial, in a variety of treatments. All houses will be detached and will have brick and stone exteriors. They will range in size from three bedrooms and two baths to five bedrooms and three baths.

Installation will be made by the Hudson Air Conditioning Corp. of Washington.

Conditioners Get Place In Du Pont Exhibit

ATLANTIC CITY—A York portable air conditioner completed a two weeks' display in du Pont's permanent exhibit on the boardwalk last Saturday, Aug. 10, as part of a program to demonstrate the use of air-conditioning equipment employing the refrigerant Freon.

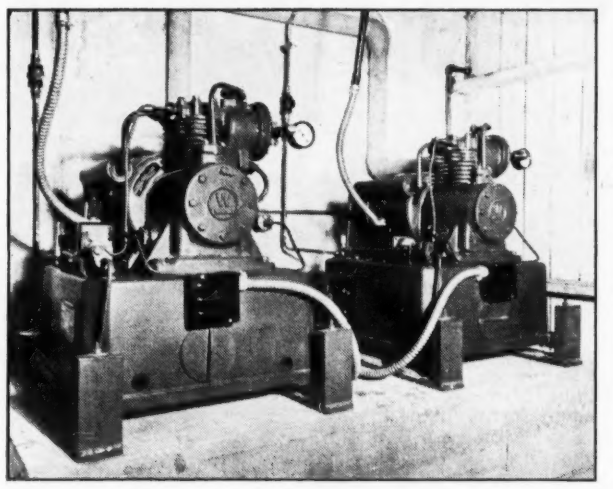
In a model living room 16x15x12 ft. the du Pont company has arranged to exhibit unit air conditioners, featuring them one at a time.

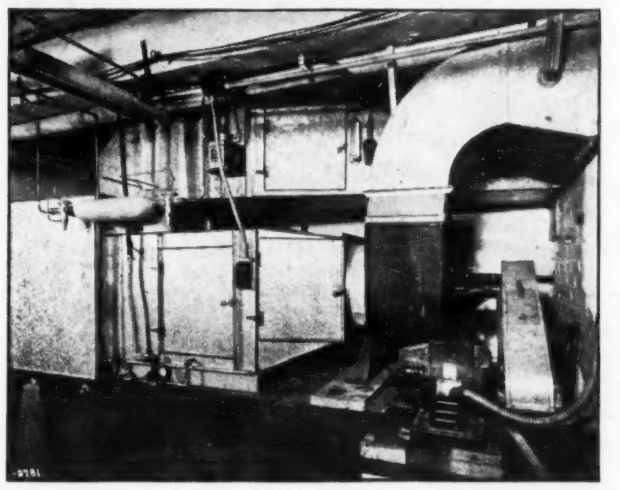
C. H. Quirk Joins Staff Of Trane Co.

LA CROSSE, Wis.—Clinton H. Quirk, for many years connected with the Vento division of the American Radiator Co., has joined the staff of The Trane Co.

Mr. Quirk will be active throughout the eastern territory.

North Side Chicago Home Installs System Providing Comfort Cooling on Three Floors





The Kroeschell installation in the Regenstein residence completely conditions five bedrooms on the third floor, a study on the second, and a recreation room on the first floor both winter and summer. Westinghouse units (at left) refrigerate the air distributed through ducts (at right) to grilles located near the ceiling in each room.

* * *

CHICAGO—One of the most complete residential air-conditioning installations made in Chicago was recently completed in the home of Joseph Regenstein, president of the Transo Envelope Co., on Sheridan Rd. The installation was made by Kroeschell Engineering Co.

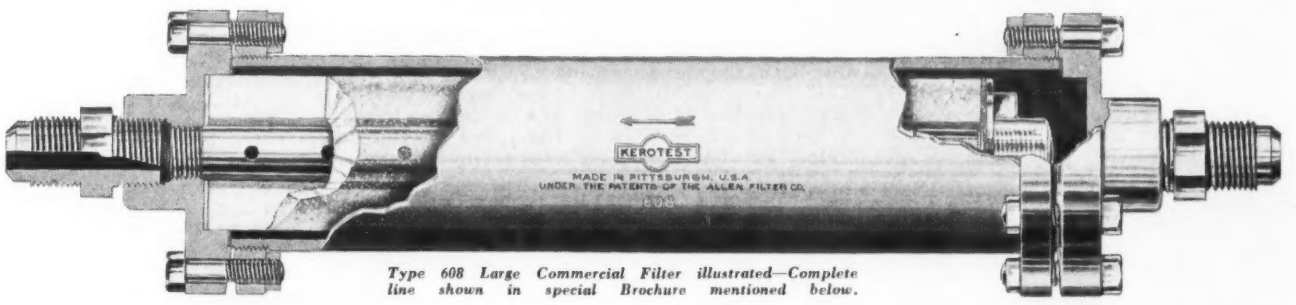
Five bedrooms on the third floor, a study on the second floor, and a recreation room on the first floor of the building have been completely air conditioned for year-'round use.

Equipment, including the air conditioner, together with two Westinghouse refrigerating units, are located in the basement. A system of ducts, hidden from view, conveys conditioned air to each room, where it is diffused through grilles near ceiling.

The system includes desirable automatic features, and for convenience can be regulated from a control panel in the home's living quarters.

KEROTEST • ALLEN FILTERS and DRIERS

Completely Abolishes Clogged Float Needle or Expansion Valve Troubles



Type 608 Large Commercial Filter illustrated—Complete line shown in special Brochure mentioned below.

As every refrigerating engineer knows, dirt and moisture are the enemies of good refrigeration. No matter how carefully a refrigerating system is installed, it is always possible for dirt, scale and moisture to effect the performance of the unit. Add to this the solvent action of most refrigerants now in use, which loosen up encrusted scale, and you can readily appreciate the importance of

KEROTEST-ALLEN FILTERS

These Filters have the GREATEST CAPACITY yet developed for mechanical refrigeration applications and assure for the FIRST time:

1. Complete Filtration
2. Complete Removal of All Foreign Matter
3. Effective Removal of Moisture

Kerotest-Allen Filters keep the oil and refrigerant crystal clear in any system . . . assure 100 per cent filter efficiency with a pressure drop that is surprisingly negligible . . . have a patented filter cartridge that can be easily removed and cleaned.

This descriptive brochure tells you all about this latest Kerotest achievement in Driers and Filters for modern refrigeration.

KEROTEST MFG. CO.
PITTSBURGH, PA.

LOCAL REPRESENTATIVES
(Stocks Maintained for Immediate Delivery)

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Baltimore, Md.....400 East Lombard St. Melchior, Armstrong, Dessau Co., Inc.
Bangor, Me.....9 Central Street Utilities Distributors, Inc.
Boston, Mass.....145 High St. A. E. Borden Co.
Bridgeport, Conn.....31-35 E. Washington Parsons Brothers
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Buffalo, N. Y.....64 Peabody St. Root Neal & Co.
Cambridge, Mass.....614 Memorial Drive Melchior, Armstrong, Dessau Co., Inc.
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Chicago, Ill.....2334-38 So. Michigan Ave. H. W. Blythe Co.
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Cincinnati, Ohio.....Burbank St. Merkel Bros. Co.
Cincinnati, Ohio.....2118 Spring Grove Ave. Williams & Co., Inc.
Cleveland, Ohio.....1748 E. 22nd St. Williams & Co., Inc.
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Davenport, Iowa.....116 East First St. Republic Electric Company
Denver, Colo.....14th at Lawrence The Auto Equipment Co.
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Fernwood, Miss.....711 N. Tangipahoa St. Enochs Sales Co.
Greensboro, N. C.....714 W. Market St. Home Appliance Service Co.
Honolulu, T. H.....Merchant & Bishop Streets Theo. H. Davies & Co., Ltd.
Houston, Texas.....306 M. & M. Bldg. D. C. Lingo Co.
Indianapolis, Ind.....229 E. South St. F. H. Langsenkamp Co.
Kansas City Mo.....3033 Main St. Forslund Pump & Machinery Co.
Long Beach, Calif.....1295 Gaviota St. L. B. Marsh
Los Angeles, Calif.....3109 Beverley Blvd. Refrigeration Service, Inc.
Macon, Ga.....131 Cotton Ave. Lowe Electric Co.
Milwaukee, Wis.....512 N. Water St. Chase Brass & Copper Co., Inc.
Minneapolis, Minn.....145 N. 10th St. Chase Brass & Copper Co., Inc.
Minneapolis, Minn.....422 So. Seventh St. Refrigeration & Industrial Supply Co., Inc.
Montreal, Que., Canada.....637 Craig St. Railway & Engineering Specialties Ltd.
Newark, N. J.....Jefferson & Chestnut Sts. McIntire Connecter Co.
New Orleans, La.....805 Howard Ave. Enochs Sales Co.
New York, N. Y.....300 Fouth Ave. Melchior, Armstrong, Dessau Co., Inc.
New York, N. Y.....43 Warren St. Paramount Electrical Supply Co., Inc.
New York, N. Y.....407 East 152nd St. Aetna Supply Co.
Norfolk, Va.....767 Granby St. Odry-Sutton Electric Co., Inc.
Oklahoma City, Okla.....100 East Main St. Mideke Supply Company
Philadelphia, Pa.....1516 Callowhill St. Melchior, Armstrong, Dessau Co., Inc.
Pittsburgh, Pa.....901 Pennsylvania Ave. Williams & Co., Inc.
Portland, Ore.....200 No. 13th St. Harrison Sales Co.
Providence, R. I.....156 W. Exchange St. Rhode Island Supply & Engineering Co.
Rochester, N. Y.....91 Mt. Hope Ave. Ontario Metal Supply, Inc.
Sacramento, Calif.....1009-1017 Front St. J. N. Blair & Company
San Francisco, Calif.....1077 Mission St. California Refrigerator Co.
San Francisco, Calif.....380 Brannan St. Refrigerating & Power Specialties Co.
Seattle, Wash.....314 Ninth Ave., No. Harrison Sales Co.
Sioux City, Iowa.....2310 E. Eighth St. National Refrigeration Service
Springfield, Mass.....576 Main St. Home Utilities Service Supplies Co.
St. Louis, Mo.....3337 Market St. The Spangler Company
Syracuse, N. Y.....314 W. Fayette St. Syracuse Supply Co.
Toronto, Ont., Canada.....82 Ontario St. Railway & Engineering Specialties, Ltd.
Vancouver, B. C., Canada Fleck Bros., Limited
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Denver, Colo.....1210 California St. Robert L. Chambers
Detroit, Mich.....18618 Santa Rosa Drive Thomas B. McLaughlin
Los Angeles, Calif.....1015 E. Sixteenth St. Van D. Clothier (Local Stock)
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San Francisco, Calif...Merchant Exchange Bldg. A. W. V. Johnson (Local Stock)
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Waterloo, Iowa.....1127 W. 4th St. Austin Jones

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Europe and South America
Melchior, Armstrong, Dessau Co., Inc.

Puerto Rico
Refrigeration Supply Co.
P. O. Box 328 Puerta de Tierra, San Juan.

COMMERCIAL REFRIGERATION

Motor Car Makers Install Servel Units On Farm to Improve Cheese Curing

WASHINGTON, Ind.—To insure proper ripening and to preserve the quality of its Jersey Brick Cream Cheese, Graham Farms, owned by Robert and Joseph Graham, motor car manufacturers, recently installed Servel commercial refrigeration equipment in its two modern cheese factories on the 500-acre Graham estate near this city.

In seeking improved methods of cheese-curing, the aim of the owners was not so much to obtain extremely low temperatures as achieve close regulation of humidity and movement of the air within the storage chambers.

Servel Humidraft equipment was installed in each of the two larger curing rooms at the cheese factories, and each unit connected to a Servel commercial machine. By close adjustment of controls and care in arranging the product, temperatures of 52° to 54° F. have been obtained, inhibiting the growth of bacteria, yet permitting the normal chemical changes that give flavor and zest to the product.

Positive uniform air motion in every part of the curing rooms promotes controlled aging by preventing surface sweating and mold formation.

Graham Farms, already a favorite with thousands of customers in this area, has recently contracted to supply the dining car requirements of one of the country's large railway systems.

Installation of Servel equipment in the two cheese factories was made by F. F. Osman, Servel commercial distributor in this area. Servel milk-cooling equipment has been in use at Graham Farms for a number of years.

Portable Steel Milkhouse Employs Frick Low-Pressure Commercial System

LOS ANGELES—Recently developed by National Tank & Mfg. Co. is a "Streamline Sanitary Portable Milkhouse," built entirely of heavy galvanized steel and equipped with a low-pressure Frick commercial refrigerating unit.

The milkhouse is so constructed that there are no cracks or crevices where dirt or bacteria might lodge, and the entire building may be steamed out after each milking, if desired.

Over the outside of the building is a double cover connected to the vents, which draws cool air up from the ground and keeps it in direct contact with the walls of the inside building. Efficiency of this arrangement is said to be so high that, while the outside wall gets too hot to be touched with the bare hand, the inside wall remains cool.

Inside of the building is divided into two rooms, with a swinging door connecting them.

The first or sterilizing room contains a wash basin, a sterilizing box, and a boiler. The basin, of the one-can type, has a combination hot and cold water tap and drainboard. The sterilizing box is of 10-can capacity, and is made in two separate compartments, which can be controlled separately.

Both the sink and sterilizer box are connected to a common drain, and the sterilizer has a thermometer in the side, for temperature reading. The boiler is fired with either kerosene, gasoline, or natural gas.

The second, or cooling room, contains the low-pressure Frick refrigerating unit, the surface cooler, and the holding box. The holding box is of 10-can capacity, with 3 in. of insulation on bottom and sides, and 2 in. on the cover.

The box and cooler are thermostatically controlled, and the former is also equipped with a built-in thermometer.

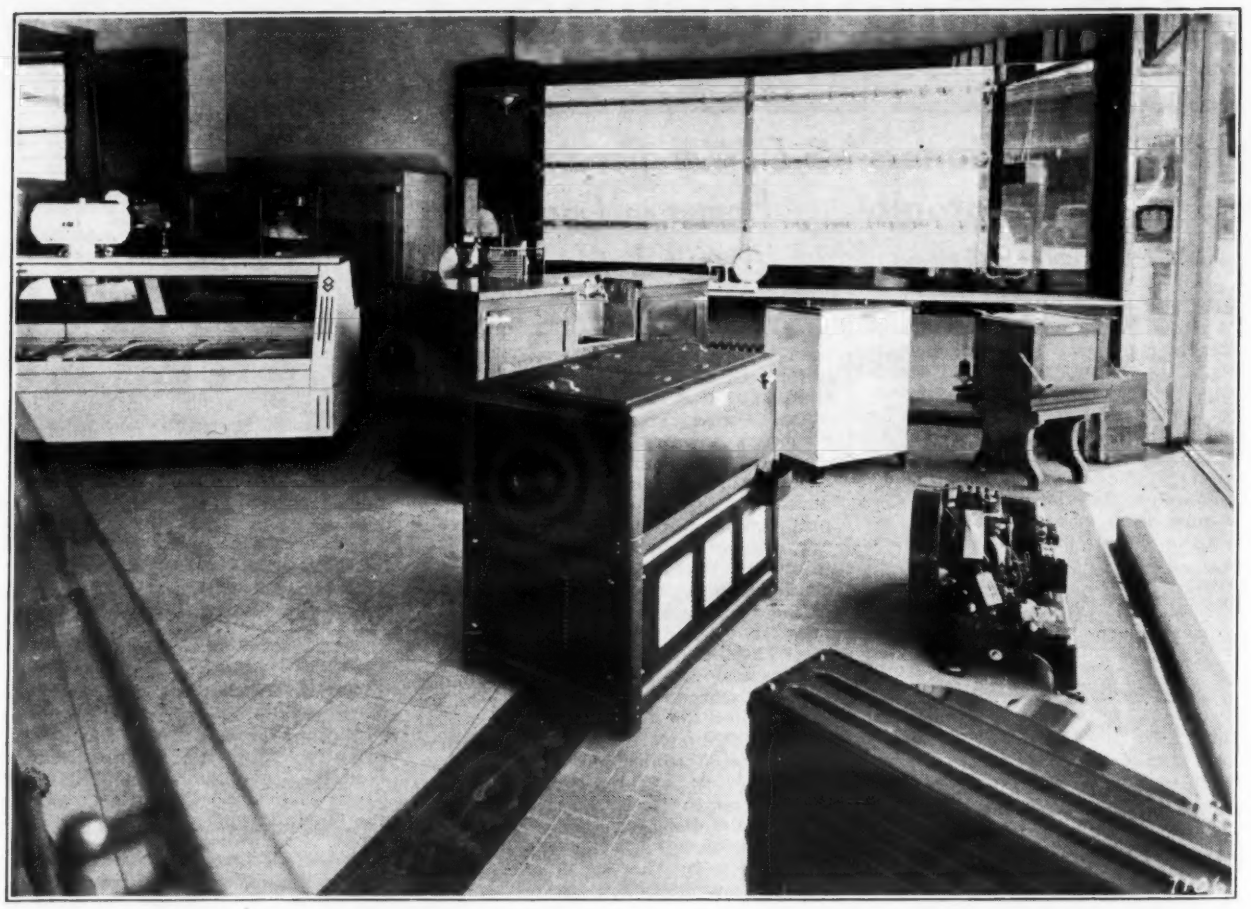
Jones Named Division Manager of Russ

CHICAGO—E. W. Jones has been appointed manager of the Russ Soda Fountain Co.'s beer dispensing equipment division in the northwest territory, with headquarters in this city.

G-E, Russ Coolers Installed In St. Louis Liquor Store

ST. LOUIS—General Electric-Russ beer-cooling equipment has been installed in the Happy Hollow Liquor Stores, operated by the United Liquor Co., Inc., here.

Displaying Commercial Refrigeration Equipment



H. A. Redmond Co., Cleveland, new Frigidaire commercial outlet, has set up this commercial refrigeration display. In the center of the commission house section, the Redmond showroom draws considerable floor traffic.

Texas Dairy Installs York Conditioner System in Office of Milk Cooling Plant

HOUSTON, Tex.—Refrigerating and air-conditioning equipment, furnished by the Houston branch of the York Ice Machinery Corp., has been installed in the Sanitary Farm Dairies, recently erected at a cost of $200,000. The air-conditioning equipment is designed to further the comfort of patrons and employees.

Included in the refrigerating and mechanical equipment used in the processing of the milk is the rapid pasteurizer, which operates on the high temperature-short time principle of heating, holding, and cooling to purify the milk.

By means of this apparatus, milk temperatures are controlled through a central control panel, the milk is scientifically purified, and its freshness of taste retained. The pasteurizer has a capacity of 5,600 lbs. per hour, and is of the stainless steel plate type heat exchanger design.

The milk is stored in 22 ft. x 50 ft. vaults refrigerated to constant low temperatures. Other items of York equipment include a 5 in. x 5 in. belt-driven ammonia compressor which serves a unit cooler in the vaults; one 24 in. x 16 ft. horizontal shell-and-tube type ammonia condenser; a vertical trunk type water-cooling tank measuring 4 ft. 4 in. x 21 ft. 8 in. x 4 ft. 3 in.; two 8 in. x 8 in. ammonia compressors; and filtering apparatus.

All plant offices, located on the second floor, as well as the public reception room are air conditioned. A York C-600 air conditioner serves the reception room, and another air conditioner unit of the C-1000 type conditions the air of the offices.

The reception room may be used as a club room and is available for social and church affairs, charitable organizations, etc. Adjacent to the club room is an electric kitchen, which may be used for cooking demonstrations. The dairy company plans to hold a series of educational meetings here for women to instruct them in the proper use of dairy products.

56 G-E Refrigerators Used at Camp Ripley

LITTLE FALLS, Minn.—A total of 56 General Electric model CS-451 commercial refrigerators are in use at Camp Ripley, Minnesota National Guard post, near this city. The cabinets, installed in the camp's mess houses, are under the supervision of Harry Alm, chief engineer.

Kelvinator-Cooled Trucks Used by Duluth Dairy

DULUTH, Minn.—The Bridgeman-Russell Co. dairy here is using a fleet of delivery trucks built by the Palm Mfg. Co., Minneapolis, refrigerated with Kelvinator units, and insulated with 6 in. of Armstrong's LK corkboard in the floors, and 5 in. in the side walls and ceiling. The 450-gal. ice cream compartments, equipped with package racks, are held at sub-zero temperatures, and the rear compartments at 38° F.

Millott Made Commercial Manager of Keystone Firm

HARRISBURG, Pa.—A. T. Millott, national users' specialist for the specialty appliance sales department of the General Electric Co., has been named commercial manager of Keystone Appliances, Inc., G-E distributor here. He succeeds Ross Stickel, who is now store manager.

Wholesale Grocer Made Hussmann Distributor

CLEVELAND—The Weideman Co., wholesale grocer here, has been appointed distributor in Cleveland and surrounding territory by the Allied Store Utilities Co. of St. Louis, manufacturer of Hussmann-Ligonier commercial refrigerator equipment.

Redmond to Distribute Frigidaire Commercial Machines in Cleveland

(Concluded from Page 1, Column 5)

ployed previous to the taking on of refrigeration, the company has added a Frigidaire crew of five men. All 10 outside salesmen, will sell refrigeration and other equipment.

"The time is especially ripe for the establishment of a fixture house that can equip a market, grocery, restaurant, or bar completely from small accessories to completely refrigerated coolers," Mr. Redmond said. "Thousands of merchants in our sales area are starting modernization programs or thinking seriously about rehabilitating their establishments. We have more good prospects now than at any time in the last five years."

Mr. Redmond believes in merchandising his products. Whenever his company obtains a contract for a good sizeable installation, pictures of the completed market go out postcard size to a list of prospective purchasers.

Whenever Redmond salesmen call, a sticker stating the services the company offers is affixed someplace where the merchant can see it regularly.

Meat and food trade publications carry Redmond advertising and methods normally pursued by department stores are used in a modified way suitable for this type of business.

York Sales Volume Shows Increase in 6 Months

YORK, Pa.—Sales volume of the York Ice Machinery Corp. for the first six months of 1935 was 60 per cent ahead of the corresponding period last year, reports S. E. Lauer, general sales manager.

40 STYLES • DESIGNS AND SIZES...
40 WAYS For Weber Distributors TO PROFIT

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THE man who has been trained to properly handle refrigeration and air conditioning installation and service work, should have no worries about his future. And that goes for the employer who hires him too. With a properly trained man on the job the worries of giving customers the right kind of installations and service are reduced to a minimum.

If you are not familiar with R-A-C-I Training, endorsed by leading manufacturers, and supervised by an industry-appointed Board of Governors, please let us send you the details. Employers and men interested in the years just ahead, you should have the facts. Write now.

REFRIGERATION AND AIR CONDITIONING INSTITUTE
2150 LAWRENCE AVE. — CHICAGO

National Cheese Institute Asks Help Of Refrigeration Industry in Drive For Proper Preserving Methods

National Cheese Institute, Inc.
405 E. Mill St., Plymouth, Wis.

Editor:

Upon the suggestion of the Cramer-Krasselt Co. of Milwaukee, I am writing you with respect to a matter of great importance to a large portion of the American dairying industry. We feel that ELECTRIC REFRIGERATION NEWS can do more probably than any other publication toward effecting the desired correctives.

One of the facts uncovered by activities in Wisconsin to increase the consumption of cheese—and from experiences in other states as well which reveal the same situation—is that many retail stores have not yet learned how to give cheese proper care. They have not learned that cheese should be kept under refrigeration like butter, meat, and many other perishable foods.

Retail Cheese Purchases

This poor handling and lack of proper care of cheese in the hands of the retailer has much to do with holding down cheese purchases, and retarding consequent consumption.

It is true, likewise, that housewives also have much to learn about the keeping of cheese in the home. There are many evidences that an old custom of keeping cheese *out* of the refrigerator is still adhered to—to the detriment of the cheese and cheese sales as well.

In the days before refrigeration, cheese more often than not sat out on the store counter, perhaps under a celluloid or glass hood. To say the least, cheese sold in this old manner was unsanitary and unattractive.

With the advent of refrigeration, the cheese was gradually moved back into the rear ice box, with the tubs of lard and butter. The cheese was at last in a cool place, out of dust and away from the flies. But it was also out of sight, and consequently, all too often out of shoppping housewives' minds. With the perfection of electric refrigeration and the installation of the refrigerator show cases, some cheese has come out of hiding. But there is still a great deal hidden back among the tubs of lard and butter, waiting to see the light of day—and a buyer.

Refrigerated Display Needed

This would seem to reduce the problem to one of getting more refrigerator cases into service, and getting more cheese into these cases. However, further developments in the cheese industry have created another problem that is in part a repetition of the original.

The development of processed cheese in small, attractive packages in recent years, and more recently, the development of a way to merchandise factory cheese in similarly small packages in the past year, has once more created the problem of getting the cheese back into the refrigerator. Grocers, anxious to increase their volume of cheese sales, have been displaying this packaged cheese on open counters or tables, or on top of refrigerator cases.

No one will deny that counter display is an excellent way to push the sales of a packaged product. But whoever does this forgets that cheese is a food that cannot remain attractive under excessive temperatures. It is not generally known that cheese is about the only food whose quality and delicate flavor improve with age, if properly taken care of.

The factory may manufacture perfect cheese. The cheese may be handled and cured with the greatest of care in the warehouse (where it is kept at a constant temperature under refrigeration). It may be carefully packed and shipped in refrigerated cars. But the whole controlled process of manufacture and curing may be rendered useless unless there is proper and adequate refrigeration at the point of sale.

Education Necessary

No grocer would think of displaying ice cream or butter on his counters as he would soap or cereal. He has been educated to proper refrigeration for these dairy products through the joint efforts of the creameryman, health officials, and the refrigeration industry. Now we have the job of educating him to the proper care of his cheese stocks, and in this we are looking to the electric refrigeration industry to give us a helping hand.

Some 500 million pounds of cheese are manufactured each year in the United States, some 36 states contributing in greater or lesser amounts to the total. In addition, we import about 50 million pounds of cheese, mostly from Italy and Switzerland. This is a lot of cheese, in the aggregate; but when we reduce it to a per capita consumption basis, and then compare it with the cheese-eating accomplishments of other nations, it is not a very great deal.

The annual per capita consumption of cheese in the United States is a little over four pounds. It is 8½ pounds in Britain, 10 to 14 in most continental countries, and reaches a top of 20 pounds in Switzerland.

But other factors that might possibly preclude a higher consumption of cheese in Europe cannot obscure or minimize the fact that proper and adequate refrigeration for retail cheese displays will increase sales and consequent cheese consumption in the United States.

Dairying in the United States is the biggest business we have—some four billion dollars a year. It represents fully 20 per cent of all farm income.

But the persistently low per capita consumption of dairy foods, especially cheese, has kept the dairy business, and the dairy farmer in particular, in a depression of his own for years. Only a slight per capita consumption increase would help put this great industry back onto its feet.

And in the line of causes that will bring about this effect, proper refrigeration at the point of sale is pre-eminent.

I want here, frankly, to ask the cooperation of the refrigeration industry in solving this problem, of keeping cheese on display but under refrigeration in retail stores.

I can see a great opportunity for the refrigeration industry to assist in this work, and thereby achieve a double reward: an increased general appreciation of the very great service the industry renders in protecting the food supply of America, plus the very real and sincere gratitude of the cheese industry and the thousands of farmers, craftsmen, and businessmen it represents. You can be assured that the National Cheese Institute, and I am sure the industry as a whole, will cooperate with the refrigeration industry in every way possible in getting this important message to grocers and to housewives.

G L. MOONEY,
Secretary.

'Pause That Refreshes' Results in G-E Sale

HEBRON, Md.—"The pause that refreshes" meant not only an ice-cold Coca-Cola on a hot day, but also the sale of a General Electric refrigerator, to Morris Shockley, sales supervisor of the central division of Eastern Shore Public Service Co., when he stopped recently on his way through this little town for a cool drink at a small roadside store.

Noticing that no means were provided for safekeeping perishable foods, Shockley called this to the attention of the store owner, who is also an agent for the local ice company, and who operates an ice station next door to his store.

Stressing the fact that since school children regularly patronized the store for sandwiches, milk, and cold drinks, Shockley convinced the proprietor that G-E refrigeration was a solution to his refrigeration problems, and closed the sale, despite the proximity of the ice station and the store owner's connection with it.

Berger Named Purchasing Agent for York

YORK, Pa.—Harry E. Berger has been named general purchasing agent of the York Ice Machinery Corp., succeeding Earle Gardner, deceased. Mr. Berger started with the York company in 1903 as a stenographer, and from 1906 until 1918 served in the sales department. Since 1918 he has been assistant purchasing agent.

Government Orders Leonard Models for Various Departments

DETROIT—United States Government orders have been received from four departments by the Leonard Refrigerator Co. during the past two months for supplying electric refrigerators to be used in various locations by government agencies.

Included in the government orders from the Department of Interior are 16 for supplying that many Indian reservations with Leonard refrigerators. Among these orders is one for 22 Leonards for the Navajo Central Indian Agency at Gallup, N. M. Some of the other orders call for Leonard installations at Mescalero, N. M., Indian Agency; Cheyenne River, S. D., Indian Agency; Theodore Roosevelt Trachoma school hospital; Fort Apache Indian Agency, White River, Ariz.; and the Phoenix Indian Sanatarium, Phoenix, Ariz.

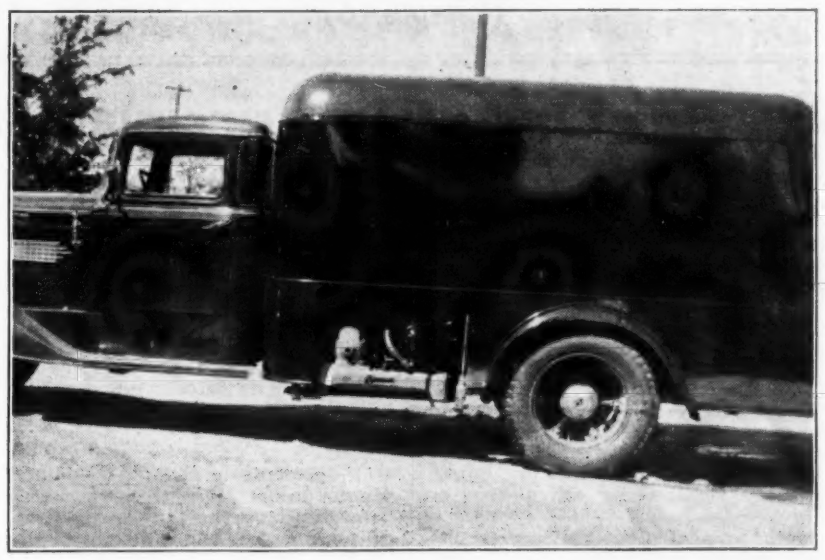
Safe preservation of food is doubly important in remote corners of the world where the United States War Department maintains operations, and Leonard equipment has been ordered for a number of such locations. Included in recent orders are 38 for the Panama Canal Zone and the Base Hospital at Tientsin, China.

Five Veterans Administration hospitals also are to have Leonards.

The Department of Commerce has ordered electric refrigerators to be shipped to the Lighthouse Depot at Milwaukee which will be installed in six lighthouses on the Great Lakes.

Treasury Department orders for Leonard refrigerators include equipment for Los Angeles Quarantine Station at San Pedro, Calif., Narcotic Farm at Lexington, Ky., and Appraisers Stores at Baltimore.

Lipman Unit for Truck with Gas Engine Drive Has Flexible Tubing Refrigerant Lines



Ice cream delivery at temperatures of 0° F. and lower is possible with this Lipman truck. Coils are connected to flexible refrigerant lines.

* * *

CLEVELAND—Just put into service here is a refrigerated truck for carrying ice cream to rural areas surrounding Cleveland, a Lipman gasoline engine driven refrigerating unit furnishing the refrigeration.

The purchaser asked for a temperature of 0° F. inside the body. When the 1-hp. air-cooled Lipman unit model 102L was first put into operation, the temperature was pulled down to —17° F., states F. M. Angus, manager of the General Refrigeration Sales Co. Cleveland office.

Approximately 230 ft. of refrigeration coils were placed at the top and on the side of the refrigerated truck body opposite the doors.

Coils were connected to the Lipman machine by flexible tubing connections through the floor, thus eliminating vibration between the machine and the evaporator.

The refrigerating machine was installed at the forward corner of the truck body, a gasoline engine mounted on the machine base at the point usually occupied by the electric motor. It was necessary to make an extension on the exhaust line of the engine to bring the exhaust down and out beyond the compressor.

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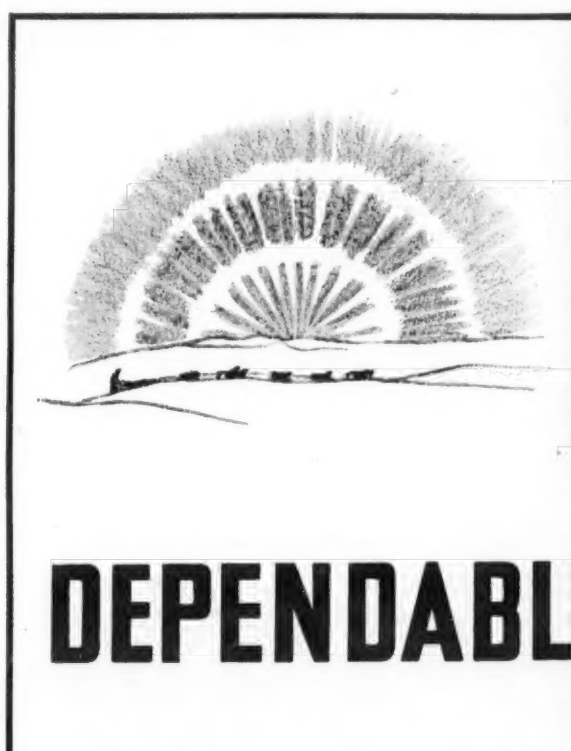
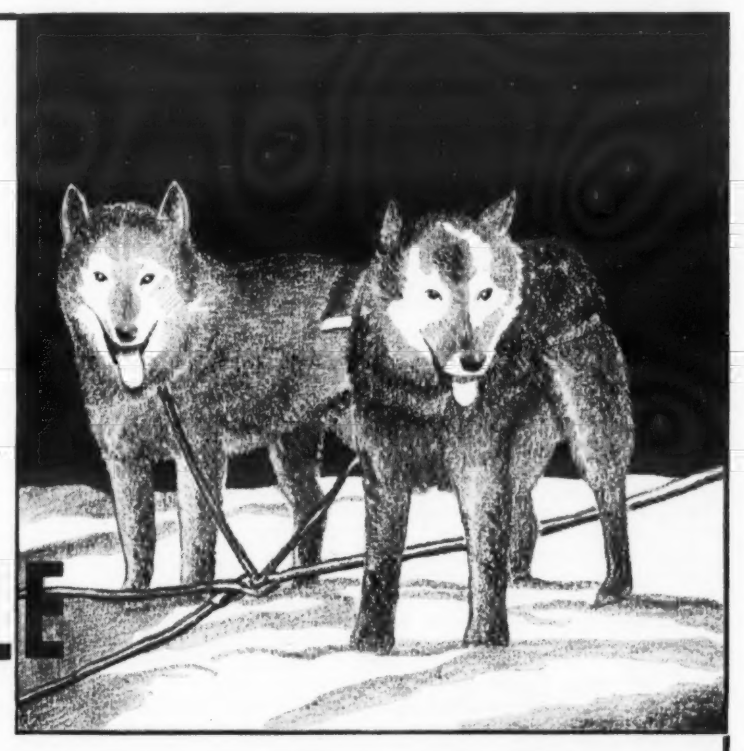


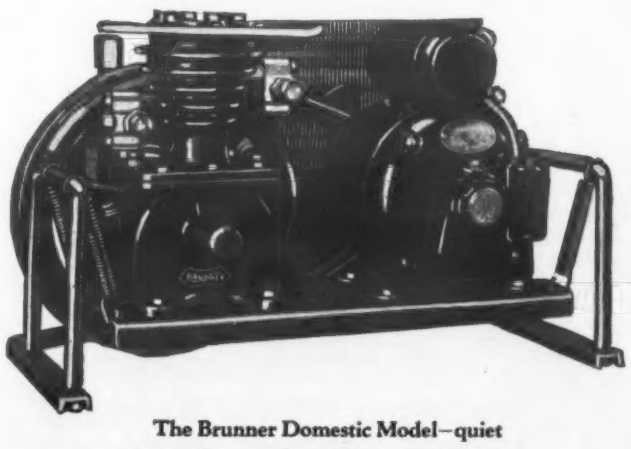
DEPENDABLE



LIKE these valiant, dependable Eskimo huskies . . . Brunner refrigeration units can be relied upon to give honest, 24-hour-a-day service without whining or complaining. Yes Sir, they're a superior "breed".

And no wonder! Backed by a 29 year tradition of quality, Brunner Compressors and Highsides are built to wear. Everything about them bespeaks smooth, trouble-free performance—their advanced design, their top-quality materials, their precision workmanship.

Send for our new catalog . . . Familiarize yourself with Brunner advantages. Take time to compare Brunner efficiency, quietness, economy with ANY other make before you buy. *We invite this test* . . . The 1935 Brunner line includes 8 models of compressors, 41 models of highsides, from 1/6 H. P. to 15 H. P. Brunner Mfg. Co., Utica, N. Y., U. S. A.



The Brunner Domestic Model—quiet—safe—carefree. Two models: one cylinder, 1/6 H. P. and two cylinder 1/5 and 1/4 H. P. Both air cooled.

Brunner

A NAME BUILT BY 29 YEARS OF SERVICE

MASTER SERVICE MANUAL
(Chapter 6)

General Operating Principles of Thermostatic Controls

By K. M. Newcum

69. Thermostatic Controls

The principle of the thermostatic control which is now more universally used on domestic refrigerators is shown in Fig. 115.

The bulb "A" which is attached to the evaporator in such a manner as to assure contact with the evaporator is charged with a volatile liquid, usually a refrigerant such as SO_2 or methyl chloride.

It is connected to the power element bellows "B" with a small capillary tube. As the evaporator temperature increases, the bulb temperature also increases, which raises the pressure of the thermostatic liquid-vapor, causing the bellows to elongate, moving weight "W" upward until the electrical contact is made, starting the electric motor.

During the operating cycle the evaporator temperature decreases. This decrease in temperature responds on the bulb and the pressure within is decreased and the weight "W" moves down, compressing the bellows until the point is reached where the electrical contacts open, stopping the electric motor.

The weight type thermostatic control requires more room than is usually accessible in the modern refrigerator and like the low-pressure control, springs are substituted, for they may be confined to a much smaller space and still function properly.

As an example of the similarity between the thermostatic and low-pressure control, the Penn switch shown in Fig. 113 is furnished as illustrated as a low-pressure control, while the same control is furnished as a thermostatic control, when the bellows cup is fitted with a capillary tube and a charged thermostatic bulb.

Method of adjusting and the general operating principles remain the same, except the adjustments are determined by the temperature range through which the control will operate, instead of the pressure range. This also applies to the Minneapolis-Honeywell control shown in Fig. 114, and many others.

A small compact thermostatic control, known as the Tagliabue "snapon" controller is shown in Fig. 116. This control incorporates the use of the convenient temperature range adjustment feature and also the overload relay.

The thermostatic bulb is clamped to the evaporator to assure proper thermal contact. As the evaporator temperature increases, the vapor pressure in the bulb and power element also increases causing the bellows to elongate against the compression of the main spring. When the normal cutting-in point is reached, the contacts snap on, closing the circuit and starting the motor.

As the evaporator temperature decreases, the bulb becomes colder and the pressure decreases to the set cutting-out point where by the contraction of the bellows the control snaps off, opening the contacts.

Note the temperature adjusting knob is set on "Normal" in the illustration. This setting would provide an average refrigerator temperature suitable for general use.

Should the user wish to set the temperature lower, it may be done by turning the knob in the direction marked "Colder."

In doing this the differential setting of the control is lowered, resulting in a shorter off cycle and a lower average evaporator and refrigerator temperature.

This same adjustment knob may be turned to the side marked "Defrost." In doing this, the differential adjustment is increased to a point where the evaporator will defrost on the longer off cycle, yet allow the system to operate just sufficiently to maintain a suitably low temperature to prevent high refrigerator temperatures during the defrosting period. When the evaporator is completely void of frost the knob should be turned back to normal to again result in a regular cycle.

The overload relay, which is a device for protecting the electric motor against damage from overload, caused by lack of lubrication, low voltage, high operating head pressure, or other reasons, may be manually operated as a start and stop switch.

This switch should normally remain in the "on" position. Any overload on the motor will cause the overload relay coil to heat beyond normal temperature, which in turn causes the relay to kick out throwing the switch to the "off" position and opening the electric circuit.

The fact that the relay kicks the switch out is a warning that there is an overload on the motor and the system should be checked for causes of this condition.

It is possible for a temporary surge in the electric current to cause a temporary overload, making the relay kick out. The user may return the switch to the "on" position, but if the relay persists in snapping off, the service man should be called to locate and correct the cause of this condition.

Thermostatic Control

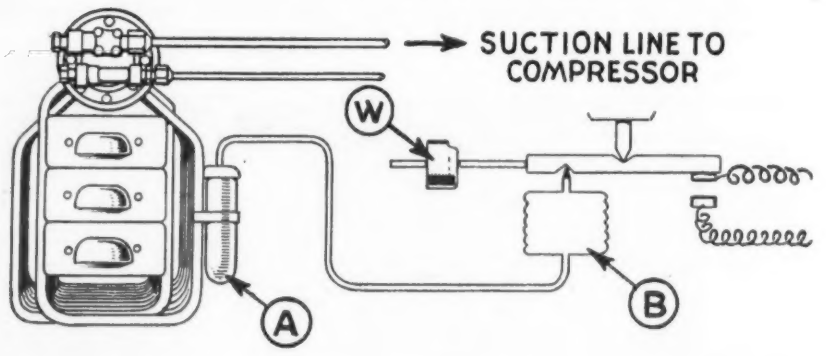


Fig. 115—Typical thermostatic control illustrates operating principles of this type of control. (A) Thermostatic bulb. (B) Power element bellows. (W) Weight. Springs are substituted for the weight in many controls because of the lack of space.

Tag Control

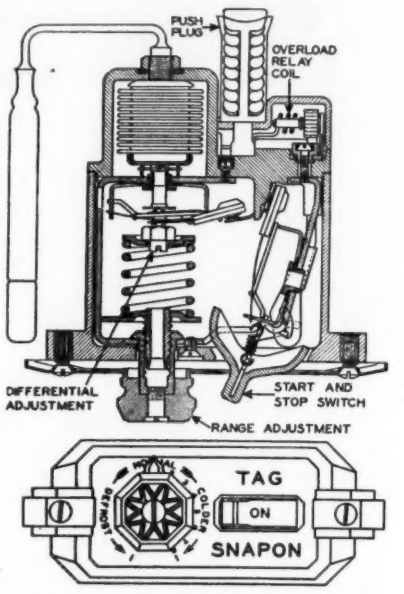


Fig. 116—"Snapon" control with temperature range adjustment.

Johns-Manville Tells How to Reduce Noise

NEW YORK CITY—Deadening or reducing noise produced by mechanical equipment through the use of sound dampening or sound absorbing materials and by isolating vibrating mechanisms is the subject of a brochure published by Johns-Manville.

It contains an instructive discussion of the problem of sound control.

Master Service Manual To Be Published In Book Form

Published in this issues is Chapter 6, Instalment 3 ("Thermostatic Controls") of the Master Service Manual, prepared by K. M. Newcum. The manual is being published serially in Electric Refrigeration News first instalment appearing in the April 10, 1935, issue. When all the chapters have been published in the News, the information will be put in book form, with considerable supplementary material.

This manual of information on the design and operation of present-day refrigeration systems will add to the service man's knowledge, and will assist him in meeting specific problems in servicing operations in the field.

Our supply of some of the back issues has been sold out. In order to meet the demand for the complete series we make the following offers to service men:

(1) Send $3.00 for a year's subscription to Electric Refrigeration News to start now (or as far back as we have issues available) and we will send reprints of all previous Newcum articles in pamphlet form (size 6¼x8¾ inches).

(2) Send your advance order for a copy of the Master Service Manual, enclosing $3.00 to pay for the complete book, when published, and we will send you free of charge, reprints of all the Newcum articles published in the News up to the present date. These reprints will be in pamphlet form (size 6¼x8¾ inches).

Following is an outline of the subjects and the dates of the weekly issues of Electric Refrigeration News in which the material was published:

Chapter 1—THEORY OF REFRIGERATION (April 10).

Chapter 2—PRINCIPLES OF MECHANICAL REFRIGERATION (April 17).

Chapter 3—COMMON REFRIGERANTS (April 24).

Chapter 4—CONDENSING UNITS.

Instalment 1: description of various compressor parts (May 1).
Instalment 2: stuffing box seals, flywheels, and direct-connected units (May 8).
Instalment 3: rotary compressors (May 29).
Instalment 4: care and servicing of shut-off valves and gaskets (June 5).
Instalment 5: condensers (June 12).
Instalment 6: liquid receivers (June 19).

Chapter 5—EVAPORATORS.

Instalment 1: flooded evaporators with low side float valve (June 26).
Instalment 2: high side float valves and flooded evaporators (July 3).
Instalment 3: automatic expansion valves (July 10).
Instalment 4: automatic expansion valves—continued (July 17).
Instalment 5: thermostatic expansion valves (July 24).

Chapter 6—CONTROLS

Instalment 1: low pressure controls (July 31).
Instalment 2: low pressure controls continued (August 7).
Instalment 3: thermostatic controls (August 14).

Also published in this issue is No. 18 of "Installation Operations" and No. 18 "Service Operations," two series of lessons outlined for the use of the service manager in instructing beginners.

SERVICE OPERATIONS

A SERIES OF LESSONS OUTLINED FOR THE USE OF THE SERVICE MANAGER IN INSTRUCTING BEGINNERS IN SERVICE WORK

No. 18—Flushing Float Valve or Expansion Valve (All Makes)

By K. M. Newcum

REASON:

A frosted or extremely cold suction line is a direct result of an overflow of unevaporated refrigerant down the line and is due to an excessive amount of liquid passing the float valve or expansion valve. This may be due to several things but, in many cases, it is due to a small speck of dirt or a copper filing that has become lodged between the valve needle and seat, thus preventing the valve from closing. The following operations should always be made before replacing the valve or making any changes in the adjustments.

PROCEDURE:

A. Install the combination gauge set.

B. Close the liquid line shut-off valve at the compressor.

C. Start the compressor and keep it running for at least 15 minutes.

D. During the time the compressor is running the condenser should be covered with a piece of cardboard or similar object to restrict the flow of air through the condenser, thus raising the head pressure to several pounds above regular operating pressures.

E. After compressor has operated for the required time and the pressure has built up, open the liquid line shut-off valve as suddenly, and as wide as possible, allowing a rush of liquid to enter the line and subsequently the valve (float or expansion). In it's rushing or flushing action, the liquid will remove the obstruction and carry it away from the valve needle and seat.

F. Remove the cardboard from the condenser and check the operation with the instructor.

G. Open all the valves to their respective operating positions and allow the system to function for at least 15 minutes.

H. If the suction line still persists in frosting, the valve will have to be adjusted or replaced. Do not attempt to change the valve as this will be done in a separate operation.

I. Check with the instructor.

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Non-metallic, refrigerant-proof, flexible hose specially designed for the charging and purging of refrigeration units. Patented Weatherhead fittings assure leak-proof connections and a service-lasting unit.
Weatherhead
Write for our new catalog, which contains our complete listing of refrigeration valves and fittings with their special features.
THE WEATHERHEAD COMPANY
620-724 Frankfort Avenue, Cleveland, Ohio

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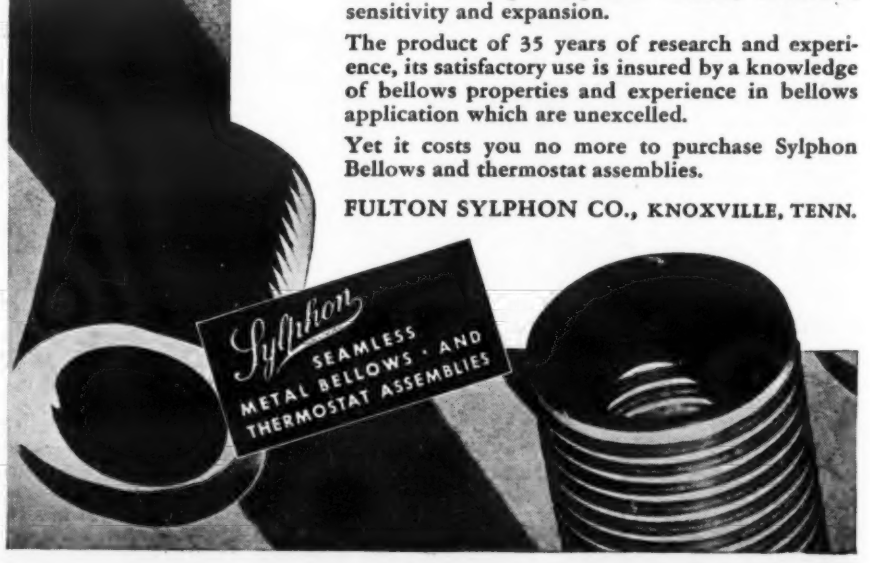
Made from carefully drawn thin wall tubing specially heat-treated in electric furnaces. Formed by either rolling or hydraulic process. Cold worked for long life under repeated stress. *Tested* at every stage of manufacture for accuracy, durability, freedom from porosity and defects, resilience, sensitivity and expansion.

The product of 35 years of research and experience, its satisfactory use is insured by a knowledge of bellows properties and experience in bellows application which are unexcelled.

Yet it costs you no more to purchase Sylphon Bellows and thermostat assemblies.

FULTON SYLPHON CO., KNOXVILLE, TENN.



SERVICE PROBLEMS

Engineer Advises Against Use of Silver Solder for Streamline Joints

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Smelters, Jobbers
2035 Washington Ave.
Philadelphia, Pa.

Publisher:

With regard to the blast and accident which occurred at the Mayfair Grill, Chicago, July 13, 1935, I cannot refrain from writing you with the hope that you will publish this letter in your ELECTRIC REFRIGERATION NEWS.

There is no doubt that the pending investigation will definitely establish the real cause of this blast and accident but will it go far enough to cure some of the unnecessary ordinances now passed and using silver solder for connecting the "Streamline" joints sponsored by codes in the various cities?

In my opinion this accident would have never occurred if a low melting point solder had been used between 350° and 450° melting range and in that case no high combustible chemical such as acetylene or oxygen would be required.

There are solders available at the present time that can be purchased between the 350° and 450° range with the present streamline design fittings. These fittings have sufficient surface and will stand as much and more pressure than joints with silver solder when the proper amount of solder is applied to each joint. In fact, the tests made by the Mueller Brass Co.'s laboratories, Port Huron, Mich., in a report to the Refrigeration Division of Nema show under actual tests that the high temperature required to melt silver solder, the tubing and joints became annealed, softening the copper or brass tubing causing breakdown of wall structure at much lower pressure, and in consequence the tensile strength is lowered.

This very clearly shows that many of the ordinances established throughout the country have been set up in more of a theoretical way and the real actual conditions were never studied in the field where consideration must be given to the annealing of the tubing and the many uncontrollable factors involved and human element that enters in making such installation.

The real reason for some of the manufacturers insistence on using silver solder developed from the many difficulties encountered from leaks back in 1926 and 1927 on low temperature where soldered joints were made using the common tin solders which pulverized under temperatures below 30° F. and caused leaks in the refrigeration system. This was commonly called "tin disease" and in the haste of getting something to eliminate their difficulties without any experimentation, they haphazardly used silver solder to make joints.

Our own organization faced the same problem in 1926 but we refused to use silver solder due to the high temperature requirement and annealing of tubing which greatly reduced the strength but developed a solder that we used ever since without having any leaks or breakdown of solder in the many joints necessary in a refrigeration system.

This blast and accident in Chicago undoubtedly will have much influence on the purchasers of air-conditioning equipment and it will naturally appear to the average layman that the present refrigeration system is hazardous and dangerous and the general thought will be that the refrigerants used in these systems are explosive and very dangerous. By correcting these installation hazards, we will be able to move rapidly in this field.

S. J. BENN,
Chief Refrigerating Engr.

Service Man Registers Complaint Against News Advertiser

Catskill Tire & Vulcanizing Works
Radio Auto Parts Refrigeration
6 West Bridge St., Catskill, N. Y.

Refrigeration News:

After reading the enclosed advertisement in your paper, we sent two Ranco thermostats to this outfit for *repair* on June 22, 1935. We receive notice from them that cost of repair will be $4.00 each when they advertise $1.95.

We wrote and enclosed postage for their return with no results, we telegraphed without results and finally had to have a friend in N. Y. go there. We did not receive them until July 23, 1935.

Thought you should know these things.

BERT HAYES.

Price Quoted on Rebuilt Equipment Does Not Apply to Special Orders

Mr. Bert Hayes
Catskill Tire & Vulcanizing Works.

Replying to you letter of July 24 regarding the advertisement of Federal Refrigerator Corp., 437 11th Ave., New York, which has appeared in ELECTRIC REFRIGERATION NEWS, we appreciate your kindness in letting us know regarding your experience with this company. We will take the matter up with them at once to see if they can furnish any satisfactory explanation of the situation. If it should develop that this company is not prepared to give the service advertised, or if they are not straight in dealing with customers, we will certainly refuse their advertising.

Your complaint is the first which we have received regarding this company and, of course, it is entirely possible that the delay might be accounted for by some unusual conditions. We know, from our own experience, that there are a lot of difficulties involved in doing business by mail and that errors and misunderstandings sometimes develop regardless of our efforts to prevent them.

After reading your letter and again going over the advertisement, it seems to me that you have misunderstood their proposition. They advertise: *"Rebuilt* Mayson expansion valves, $1.00. *Rebuilt* American Radiator expansion valves, $1.65. Ranco controls, all types, $1.95."

This advertisement would indicate to me that they are prepared to furnish rebuilt Ranco controls *from their own stock* at a standard fixed price of $1.95. I do not believe that you should infer that this price also covers the repair of Ranco thermostats which you send in for repair.

Ordinarily, it is understood that when you buy *rebuilt equipment,* you are willing to accept material from stock which has been acquired and repaired by the service company at their leisure. This is very different from giving special and prompt service on the repair of equipment furnished by the customer.

I can easily understand that a concern of this kind might buy up a lot of thermostats and put them through their shop at one time so as to obtain a stock of units in good working order. Naturally, the cost of handling a job of this kind would be considerably less, per unit, than the handling of individual items sent in by the customer.

In the first case, the shop could put the work through over a period of time which might prove advantageous to them and so as to obtain the lowest cost. Provisions for giving emergency service to customers, when, as and if required, is a different class of work and would normally cost considerably more.

In other words, I believe that we should be fair to them in judging their advertisement. As I read the advertisement, it offers certain definite items at a definite price but nothing whatever is said about the cost or time required for delivery on special repair service, and I do not believe that the two propositions should be confused.

Please understand that I am not undertaking to defend the Federal Refrigerator Corp. and will leave it to them to give their own answer. Also the above suggestions do not cover your difficulty in obtaining a reply from this company regarding the work which you wanted done. I will ask the advertiser to let you know, and let us know, their viewpoint regarding the situation.

F. M. COCKRELL,
Publisher.

Advertisers Viewpoint On Complaint Asked

Business News Publishing Co.
5229 Cass Ave., Detroit, Mich.
Federal Refrigerator Corp.
437 11th Ave.
New York, N. Y.

Please note the attached copies of the following:

(1) A letter from Bert Hayes of the Catskill Tire & Vulcanizing Works.

(2) My reply to the above.

Will you please give this matter immediate attention and let us know, in the fullest possible details, your viewpoint on this particular complaint. I would also suggest that you outline in considerable detail your facilities for handling special repair jobs, also the nature of your service in connection with rebuilt equipment.

Owing to the fact that most of our advertisers are *manufacturers* of standardized products who sell to distributors who are large buyers, we seldom have complaints regarding our advertisers. In the case of small buyers, they look to us for a certain degree of protection.

F. M. COCKRELL,
Publisher.

Federal Refrigerator Corp. Explains Nature of Their Business

Federal Refrigerator Corp.
453 11th Ave., New York City

Publisher:

Your explanation to Bert Hayes of the Catskill Tire & Vulcanizing Works, 6 West Bridge St., Catskill, N. Y., explains the situation exactly. It is very evident to us that Mr. Hayes misconstrued the advertisements, both classified and display, that we have been running in your very fine publication.

We do not repair any make controls, as a matter of fact, we do not solicit control repairs. We have been fortunate in purchasing from a certain outstanding company here in New York, a considerable quantity of controls, expansion valves, evaporators, etc., and we have been advertising these in your paper with considerable success.

While we occupy over 16,000 sq. ft. of warehouse and shop space, with one of the finest set-ups for the reconditioning of parts and refrigerators, we have not as yet made any attempt to solicit such repairs as you mention of controls, etc.

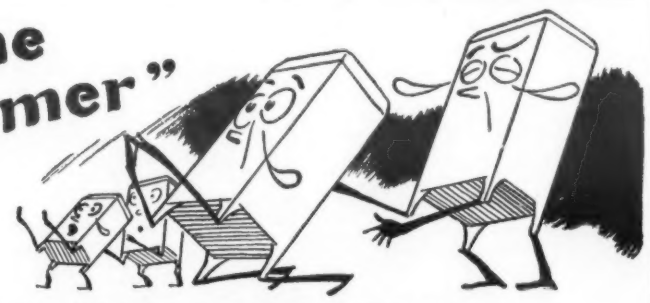
Mr. Hayes sent us two controls of a very old type. In the rush of filling orders, we neglected to return these old controls as quickly as we should. We have written Mr. Hayes and we believe this claim has been satisfactorily adjusted.

We expect to enter the new part replacement business in the fall, and we also are moving to larger quarters at which time we will be glad to go into greater detail explaining the excellent facilities we have for handling repair jobs.

At this time, may we congratulate you on the very fine magazine, or trade journal, that you publish. It has given us excellent results, and we look forward to being a regular advertiser in your display columns in the fall.

JOHN M. BESS,
General Manager.

"Gimme Gilmer"



GILMER ELECTRIC REFRIGERATOR BELTS

Gilmer BELTS

MAKERS OF THE WORLD'S BEST-KNOWN V-BELTS

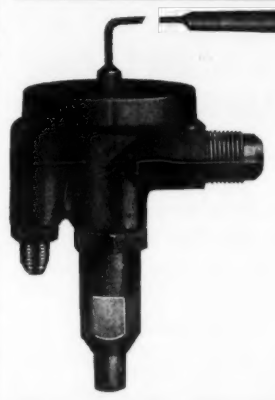
FROM the smallest of refrigerators to the largest, we've a Gilmer Electric Refrigerator Belt for each and every one... neat, sturdy fellows that live long, run quietly and fit like a glove! Each Gilmer Electric Refrigerator Belt is sleeved and marked for quick, easy identification. Write NOW for catalog containing complete details, including belts for all makes and models.

L. H. GILMER COMPANY, Tacony, Phila., Pa.

Specialists in quality belts since 1903

BUYER'S GUIDE

MANUFACTURERS SPECIALIZING IN SERVICE TO THE REFRIGERATION INDUSTRY



PEERLESS THERMAL EXPANSION VALVES

for Methyl Chloride, Sulphur Dioxide, Freon, and Ammonia

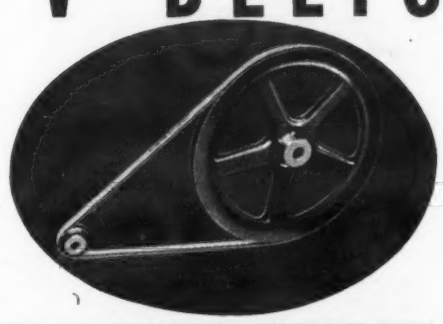
1. No bellows to leak.
2. No possibility of moisture condensation interfering with valve action.
3. Tried and proven in every section of the country.
4. Competitively priced.

PEERLESS ICE MACHINE CO.

CHICAGO 515 W. 35th St. — TWO FACTORIES — NEW YORK 43-00 36th St., L.I.C

DAYTON V•BELTS

There is a Dayton V-Belt made especially for all makes and types of refrigerators, washing machines and other appliances. A stock is available near you. Send for price list and name of your nearest distributor.



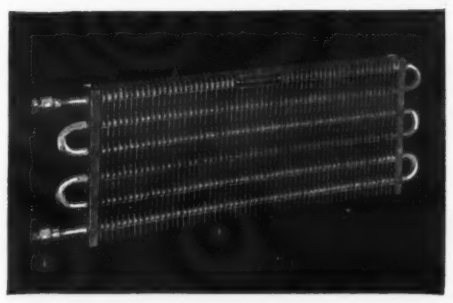
THE DAYTON RUBBER MFG. CO.
DAYTON, OHIO
The world's largest manufacturer of V-Belts

TYPE KR— 12 MODELS

RANCOSTAT —the Stainless Steel Thermostat

Now manufacturers and dealers know that an accurate, precision-built thermostat doesn't have to be a delicate mechanism. Rancostats have large, strong, rugged moving parts in a *compact but roomy* stainless steel case. Temperature settings stay accurate indefinitely. Write for KR Bulletin.

The Automatic Reclosing Circuit Breaker Co.
Columbus, Ohio



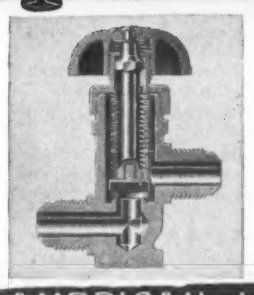
Rempe "FIN COILS"

¾" O. D. copper tubing with aluminum fins

340 N. Sacramento Blvd.
Chicago, Illinois — Kedzie 0483
PIPE COILS and BENDS — Send for catalog, price list and sample

Methyl Chloride, Freon, Sulphur Dioxide and Ammonia

STANDARD REFRIGERATING APPLIANCES



SOFT SEAT PACKLESS VALVES

Write for bulletin on complete line covering refrigerating appliances, liquid line filters, dehydrators, acid neutralizers, standard parts and materials, service tools, shaft seals, bearing metals and parts. Descriptive literature will be gladly furnished on any or all of these lines on request.

AMERICAN INJECTOR COMPANY 1481-14th. Street, Detroit, Mich.

ELECTRIMATIC MODULATING WATER REGULATOR

For METHYL SULPHUR FREON AMMONIA

NOISELESS—TIGHT CLOSING
Head Pressure Range 35-185 lb. Ga. Std.
Water Pressure Std. to 150 lb. Ga.
Operating Differential 15 lbs. Ga.
Sizes ⅜" to 3" std. female pipe threads

TYPE WRP

THE ELECTRIMATIC CORP.
2100 INDIANA AVE., CHICAGO, ILL.

ERMSTAT FULLY AUTOMATIC MOTOR CONTROL

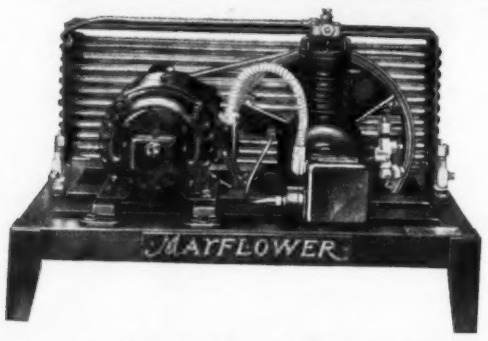
Because it protects the motor from overloads, it prevents the troubles caused by burned-out motors. Ermstat Fully Automatic Electric Motor Overload Protection decreases service calls and considerably lessens spoilage of ice cream and other contents

Write for details Ermstat Co. 1825-39 Wylie St., Philadelphia
MELCHIOR, ARMSTRONG, DESSAU CO., INC., EASTERN DISTRIBUTORS
PHILADELPHIA, NEW YORK, BOSTON, BALTIMORE

BUYER'S GUIDE

MANUFACTURERS SPECIALIZING IN SERVICE

TO THE REFRIGERATION INDUSTRY



MAYFLOWER COMMERCIAL COMPRESSORS

Invite Your Attention

Aircooled and Watercooled SO2 and Methyl Chloride Models

1/3 H. P. to 2 H. P.

Manufactured by

HARDY MANUFACTURING CO., 100 Davis Ave., Dayton, Ohio

CONDENSING UNITS AND COMPRESSORS

FOR HOUSEHOLD REFRIGERATION

BY

JOMOCO, INC.

A SUBSIDIARY OF THE

JOHNSON MOTOR CO.

Waukegan, Ill.

CABLE ADDRESS: JOMOCO-WAUKEGAN

KOCH COMMERCIAL REFRIGERATOR CABINETS

All types and sizes of heavily insulated refrigerators and display cases.

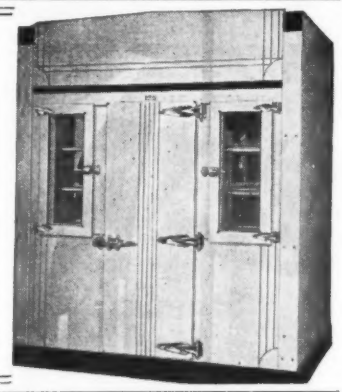
WANTED

Distributors and Sales Agents

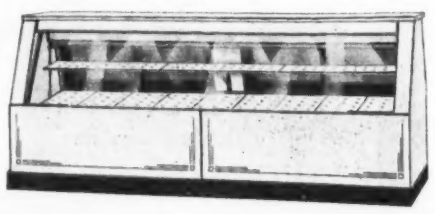
Attractive sales proposition. Some good territories available. Many exclusive features. Write for information, and submit your qualifications.

KOCH REFRIGERATORS

North Kansas City, Mo.



"DRY-KOLD", *A COMPLETE LINE!*



Refrigerator Display Cases
Meat Coolers Fish Cases
Complete Market Equipment

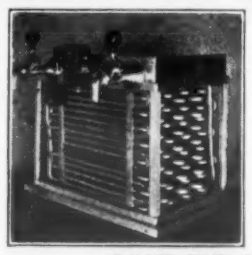
Refrigerators for Hotels, Restaurants, Florists, Delicatessens

Furnished with coils or without

Territory open for good dealers

The "DRY-KOLD" REFRIGERATOR CO., Niles, Michigan

ATTENTION REFRIGERATION DEALERS!



In your next beer installation, try this cooler and you too will be convinced.

1. Insures not only customers, but also your satisfaction.
2. Perfect beer dispensing, without any service calls.
3. Not only cold, but carbonized "live beer".
4. No motors, no moving parts, easy to multiplex without any extra controls.
5. In case of mechanical trouble, no interruption of customers business, can be used with ice.

IT HAS EVERYTHING & THE PRICE IS RIGHT

ONE DRAW BEER COIL COMPANY

Manufacturers of all kinds of Liquid Coolers

435 Collinsville Ave., East St. Louis, Ill.

PURO ELECTRIC WATER COOLERS

Thoroughly reinforced all steel attractively finished cabinets.

Different models of varying capacities.

Write for details and sales prices.

Puro Filter Corporation of America

440 Lafayette Street, New York City Spring 7-1800

KRAMER

BOTTLED BEER-COOLING COILS

fill a need, and bring business. All copper and brass construction. Made in different sizes for different capacities.

Write for prices and information

TRENTON AUTO RADIATOR WORKS

210-212 West 65th St. New York City | TRENTON New Jersey | 5114 Liberty Ave. Pittsburgh, Pa.

PATENTS

Issued July 30, 1935

2,009,410. REFRIGERATING APPARATUS. George C. Pearce and Donald Ford Alexander, Dayton, Ohio, assignors, by mesne assignments, to General Motors Corp., a corporation of Delaware. Application April 28, 1932. Serial No. 608,054. 4 Claims. (Cl. 62—4.)

2,009,550. AIR CONDITIONER FOR AUTOMOBILES. Gordon D. Harris, Freeport, N. Y., assignor to Harris Auto-Car Air Conditioner Corp., New York, N. Y. Application April 28, 1934. Serial No. 722,856. 3 Claims. (Cl. 257—7.)

2,009,623. REFRIGERATING APPARATUS. James R. Killen, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Oct. 30, 1933. Serial No. 695,809. 6 Claims. (Cl. 62—115.)

2,009,675. THERMOSTAT AND LIKE DEVICE. Arthur J. Otto, Milwaukee, Wis., assignor to Johnson Service Co., Milwaukee, Wis., a corporation of Wisconsin. Application Sept. 1, 1934. Serial No. 742,494. 9 Claims. (Cl. 236—82.)

2,009,722. EVAPORATOR FOR REFRIGERATORS. Leo D. Wright, Mansfield, Ohio, assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Jan. 23, 1933. Serial No. 653,130. 6 Claims. (Cl. 62—126.)

2,009,746. EVAPORATOR OF SHEETS OF DIFFERENT MATERIALS. Jules N. Saler, Springfield, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application Jan. 12, 1935. Serial No. 1,484. 6 Claims. (Cl. 62—126.)

2,009,802. REFRIGERATION. Robert Lay Hallock, Larchmont, N. Y. Application March 8, 1933. Serial No. 660,001. 35 Claims. (Cl. 62—108.5.)

2,009,803. REFRIGERATION. Robert Lay Hallock, Larchmont, N. Y. Original application May 28, 1932. Serial No. 614,091. Divided and this application May 15, 1934. Serial No. 725,699. 8 Claims. (Cl. 62—108.5.)

2,009,817. REFRIGERATING AND DISPENSING APPARATUS. Clarence A. Rodman, Detroit, Mich., assignor to John B. Tanner. Application June 21, 1934. Serial No. 731,657. 7 Claims. (Cl. 62—116.)

2,009,882. REFRIGERANT COOLER. Wilfred Fourness, Oakland, Calif., assignor, by mesne assignments, to Edward G. Burghard, New York, N. Y. Application June 20, 1932. Serial No. 618,153. 8 Claims. (Cl. 257—36.)

2,009,910. EVAPORATOR. Jens Touborg and Homer E. Rosebrook, Greenville, Mich., assignors to Gibson Electric Refrigerator Corp., Greenville, Mich., a corporation of Michigan. Application Oct. 18, 1934. Serial No. 748,960. 7 Claims. (Cl. 62—126.)

2,009,949. WATER COOLER. Edward T. Williams, Pelham Manor, N. Y. Application Dec. 5, 1931. Serial No. 579,197. 3 Claims. (Cl. 62—141.)

Absorption Unit Using Sun's Rays Developed

CONCORD, Calif.—A refrigerating unit of the absorption type utilizing the sun's rays has been developed by Otto H. Mohr, electrical and illuminating engineer here and former head of the illuminating engineering department of the U. S. Bureau of Mines.

Strong rays of the sun are not necessary to operate the unit, Mr. Mohr claims, nor is a warm day necessary. The unit uses only the light rays—not the heat rays—and even on sultry days the light rays penetrate sufficiently through the haze or heavy atmosphere to operate the unit, he declares.

The solar cooling unit consists of an insulated box-like affair erected where the sunlight strikes it directly. In the center of the box is a 9-in. spherical lens of special glass. Within the box and beneath the lens is a pipe from which branch out rib-like conductors.

The light rays shining through the sphere intensify the heat upon the pipe which is filled with a special oil. This pipe runs into the refrigerator, between two pipes containing ammonia.

The heat generated vaporizes the ammonia and as it is drawn off it passes through the condenser, allowing the vapor to return to its liquid state, drain into a receiver, and start the cycle over again.

Kason Forms Replacement Parts Department

BROOKLYN — Kason Hardware Corp. has formed a special department to supply refrigerator maintenance service companies' hardware for standard makes of household electric refrigerators, reports A. S. Katz.

Replacement hardware is now available in the following items: latches, hinges, latch handles, automatic trip fastener, steel and brass screws, and brass finishing washers.

INSTALLATION OPERATIONS

A SERIES OF LESSONS OUTLINED FOR THE USE OF THE SERVICE MANAGER IN INSTRUCTING BEGINNERS IN INSTALLATION WORK

No. 18—Making a Self-Contained Installation

By K. M. Newcum

TOOLS NEEDED:

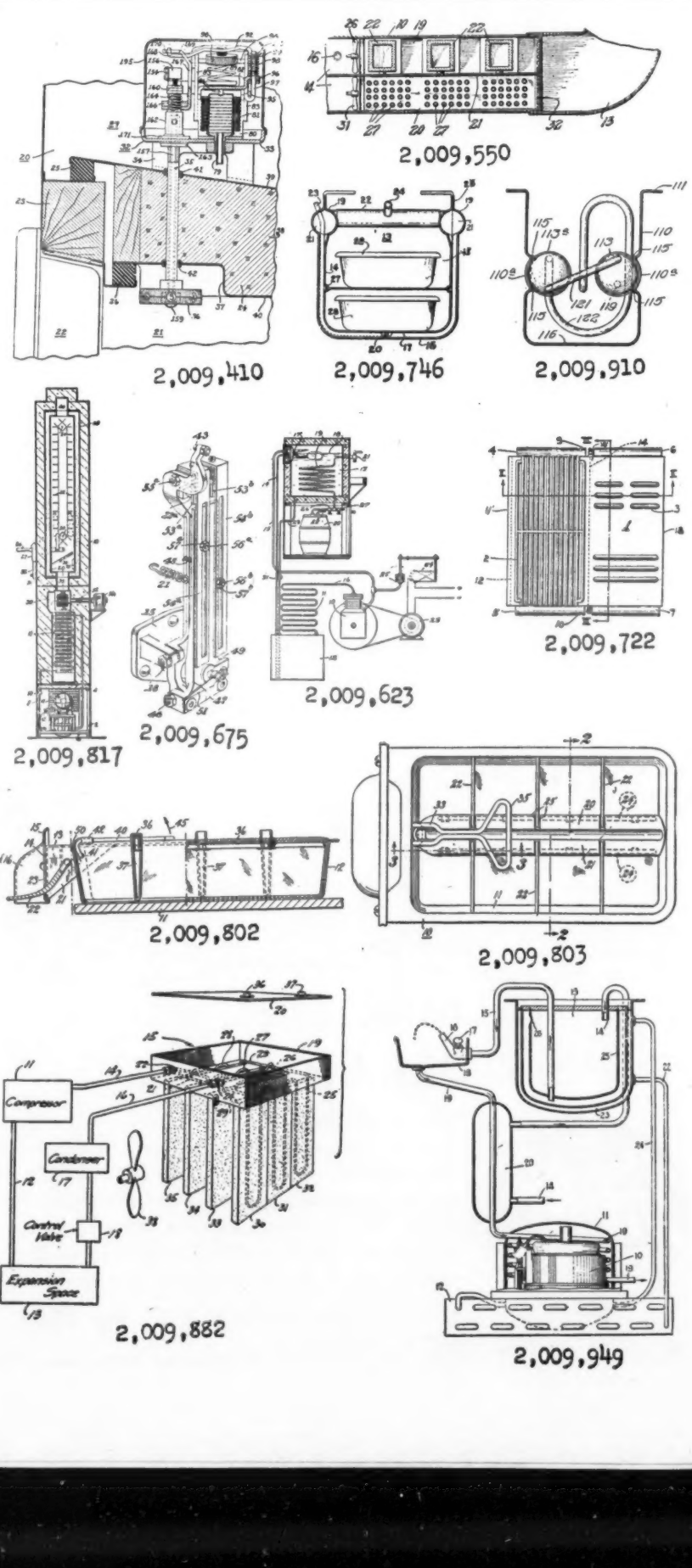
Flaring tools, rule, level, end wrenches, adjustable wrenches, screw driver, bending springs, and tool.

MATERIALS NEEDED:

Tubing and flare nuts.

PROCEDURE:

1. Install evaporator in cabinet 2nd level. Refer to Operation No. 13.
2. Install compressor in machine compartment. Refer to Operation No. 16.
3. Run tubing through hole in cabinet to front of cabinet and flare with the correct size flare nuts.
4. Make necessary bends or sweeps, and connect tubing to their respective connections on the evaporator.
5. Install outside bending spring over larger size tubing (suction line) and make a close bend in the direction of the machine compartment (down).
6. Straighten tubing perfectly straight and make a corresponding bend on the small size tubing (liquid line), and tape at 12 inch intervals down the back of the cabinet.
7. Measure for tubing connection (suction line) to suction shut-off valve on compressor. Allow sufficient tubing for a bend or sweep to absorb the vibration and cut tubing. Always allow a little more tubing than is actually needed.
8. Insert outside bending spring over suction line and bend, leaving a half circle bend or sweep from back of machine compartment to suction line shut-off valve on compressor.
9. Cut tubing and flare. Connect to compressor.
10. Run liquid line adjacent to suction line to as near the liquid line shut-off valve on compressor as possible, taping the two lines together at 12 inch intervals.
11. Cut liquid line, allowing sufficient tubing to make a 4 inch loop in tubing where it is connected to the liquid line valve.
12. Make loop in tubing, flare, and connect to liquid line valve.
13. Check tubing and connections with instructor.



Just Out New BIG CATALOG

Refrigerator service men and dealers send for our catalogue No. 110 showing lowest net prices on thousands of parts and accessories for all makes. Write us on your letter head today.

The HARRY ALTER CO.
1730 S. MICHIGAN AVE. CHICAGO, ILL. U.S.A.
8000 ITEMS FOR ALL MAKES
DOMESTIC COMMERCIAL AIR CONDITIONING

REFRIGERATION PARTS

An Old Established Supply House

Distributors for Nationally advertised refrigeration parts and supplies including such well known lines as—
RANCO, C-H AND TAG CONTROLS
U. S. GAUGES—ANSUL GAS—BELTS
IMPERIAL TOOLS, TUBING AND FITTINGS
DETROIT AND MAYSON VALVES

NEW! BIG WHOLESALE CATALOG FREE!

WRITE FOR FREE CATALOG TODAY!

Burstein-Applebee Company
1012-14 McGEE ST. Dept. R5 KANSAS CITY, MO.

Everything Needed PARTS-SUPPLIES-TOOLS

FOR SERVICING and INSTALLING ALL MAKES OF REFRIGERATION EQUIPMENT

We have what you need for repairing and installing all types of domestic and commercial refrigeration equipment. Our stock is complete. Our service is speedy and accurate. We are as near you as your telephone. Send business card or letterhead for our elaborate Free catalog.

WHOLESALE ONLY
For Your Protection

IMMEDIATE SERVICE

AIRO SUPPLY COMPANY
Successors to Utilities Engineering Sales Co.
Telephone: DELaware 5350 408-10 N. Wells St., Chicago

USED EQUIPMENT (*Domestic*)

COILS
8 cu. ft. capacity. 2 tray. Complete with lowside floats, service valves, and cube trays.
Frigidaire 5TF—110TF—115TF $3.75
Kelvinator 08V—08H $2.75
Fedders L28 (as illustrated) $3.50
Float valves for the above $1.75

CONDENSING UNITS
1/6 & ¼ H.P. Complete Highsides with 110v-AC 60 cycle motors.
Riser Valves ¼"-⅜" or ½" 50¢ each.
FRIGIDAIRE
S—$20 TS—G $25
COPELAND F—G—H $19
SERVEL No. 1, No. 21 $15

KELVINATOR
Jr-12800 $20.00
A—AA—AB $22.50
ZEROZONE—A (as illus.) $20 B—S—$18 D—$10

USED EQUIPMENT DEPT.
TERMS: CASH F. O. B. CHICAGO

R. COOPER JR. INC.
General Electric Distributors
509 E. Illinois Street Chicago, Ill.

Group Subscription Rates

REFRIGERATION NEWS
1935 REFRIGERATION & AIR CONDITIONING MARKET DATA
1935 REFRIGERATION & AIR CONDITIONING DIRECTORY

The following special rates are for PAID-IN-ADVANCE subscriptions only in the United States and Possessions and Pan-American Postal Union Countries. Charge orders are billed at the single-subscription rate, regardless of number. Papers will be mailed to individual addresses.

	Electric Refrigeration News (weekly)	1935 Refrigeration Directory and Market Data Book (2 volumes)	Both Electric Refrigeration News and Refrigeration Directory
1 subscription	$3.00	$5.00	$6.50
5 or more each	2.75	4.50	6.50
10 or more each	2.50	4.00	6.50
20 or more each	2.25	3.50	5.75
50 or more each	2.00	3.00	5.00
75 or more each	1.75	2.50	4.25
100 or more each	1.50	2.00	3.50
For All Other Countries (Except Canada)			
1 subscription	$5.00	$6.00	$9.00
5 or more each	4.75	5.50	8.50
10 or more each	4.50	5.00	8.00
20 or more each	4.25	4.50	7.50
50 or more each	4.00	4.00	7.00
Canadian Rates (including tariff of 5 cents per copy on the News)			
1 subscription	$6.00	$6.00*	$11.00*
5 or more each	5.75	5.50*	10.50*
10 or more each	5.50	5.00*	10.00*
20 or more each	5.25	4.50*	9.50*
50 or more each	5.00	4.00*	9.00*

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We sell the.....refrigerator and .....
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8-14-35

QUESTIONS

Association Members

No. 2400 (Manufacturer, Wisconsin)—"In connection with some of our refrigeration work here, we have of course, also been checking into the general subject of air conditioning.

"In this connection, we notice that Mr. Percy A. McKittrick was elected president of the Air Conditioning Manufacturers' Association at the meeting which took place at Hot Springs, Va.

"You are no doubt, familiar with the association and I was wondering whether you would have available among your records a copy of the membership of this association. It would be very helpful to us towards investigating further our own activities on the subject of air-conditioning control."

Answer: You will find the list of members of the new Air Conditioning Manufacturers' Association in an article which was published in the May 29 issue of Electric Refrigeration News.

Activated Alumina

No. 2401 (Manufacturer, England)—"We are manufacturing Freon refrigerating plants, and are utilizing driers containing 'activated alumina.' So far, we have purchased the whole of the drier outfit, but should much prefer to obtain only the 'activated alumina,' and if you are in a position to inform us where this material could be obtained we should be very grateful."

Answer: The 1935 Refrigeration and Air Conditioning Directory lists as a supplier of activated alumina the Aluminum Co. of America, Gulf Bldg., Pittsburgh, Pa. It is quite possible that they have an office in England.

Sales in Buffalo

No. 2402 (Teacher, New York)—"May I have the production figures on refrigerators for the last ten years for Buffalo or Buffalo and the Niagra Frontier. We are compiling this information in connection with a survey conducted by the University of Buffalo, which will be used for vocational guidance in the schools of this territory.

"I consulted with Mr. Harold Rahn of the Buffalo General Electric Co. who told me that while he could give approximate figures he much preferred to have me obtain this information from you as you would have the most accurate information on this subject."

Answer: All available statistics on the electric refrigeration industry are published in the 1935 Refrigeration and Air Conditioning Market Data Book. Production figures are not given by trading areas but federal tax collections, by states, give an indication of manufacturing activity. Sales by states are also given for the past several years.

Air-Conditioning Cost

No. 2403 (Dealer, Ohio)—"Have you people any information on what the cost would be for air conditioning an averaged sized funeral home?"

Answer: A story concerning the air conditioning of a mortuary, giving figures on the installation cost and operating cost, was published on page 10 of the July 31 issue of Electric Refrigeration News.

Sales in 6-Month Period

No. 2404 (Dealer, Illinois)—"Can you furnish me the total amounts of domestic electric refrigerators manufactured and sold individually by the five leading manufacturers in the first six months of 1935?"

Answer: We cannot give you the information requested, because sales figures by individual manufacturers are not made public.

Total monthly sales figures by manufacturers who are members of the Refrigeration Division of the National Electrical Manufacturers Association are published in Electric Refrigeration News, and at the end of the year Electric Refrigeration News estimates the total number of refrigerators sold by all manufacturers.

Data on Sulphur Dioxide

No. 2405 (Service Man, Pennsylvania)—"Would you please give me all the dope you can on sulphur dioxide gas (SO_2)?

"What should the vacuum be on a machine using two pounds of SO_2 gas? What should the pressure be, at a given room temperature?

"Is there a standard for SO_2 gas, that is the vacuum, and the head pressure at a given room temperature?

"Would one pound of gas make the same pressure as two pounds of gas in the same size container? This question has caused some argument.

"When a machine does not pull a vacuum, does that signify that there is too much gas in it?

"What is the dope on a good cheap brine?

"What would make a good dryer and how could I build one?

"I have not had much experience in ice boxes but do a lot of electric repairing."

Answer: Published in the April 17 and April 24 issues of Electric Refrigeration News this year, as part of a series of articles by K. M. Newcum on refrigeration service, are two articles dealing with characteristics and properties of common refrigerants, and including a pressure-temperature table.

Published in the February 21, 1934 issue was an article by A. H. Eustis of Virginia Smelting Co. which also discusses characteristics of the various refrigerants.

Manufacturers of brines are listed on page 231 of the 1935 Refrigeration and Air Conditioning Directory.

Unit Sales for June

No. 2406 (Advertising Agency, Illinois)—"Please send us June electric refrigeration sales in units."

Answer: June sales of household refrigerators by manufacturers to distribution outlets total 174,860 units as reported in the July 31 issue of Electric Refrigeration News.

Coldspot Specifications

No. 2407 (Reader, District of Columbia)—"I have been reading regularly your paper, Electric Refrigeration News. You published an edition containing facts about a Coldspot, that I have been unable to obtain. Will you kindly send me this edition."

Answer: Specifications of the Coldspot refrigerator were published in the June 12 issue of Electric Refrigeration News. The January 23, 1935 issue of the News contains an article on the 1935 Coldspot line.

Growth of Industry

No. 2408 (Certified Public Accountants, Illinois)—"We have been retained by one of our clients to prepare a depreciation study of his ice plant. In connection therewith we are also anxious to give expression to the factors of obsolescence occasioned by the introduction of electrical and mechanical refrigeration.

"It would be of material assistance to us if we could obtain data showing a year by year growth of electrical refrigeration in units as well as dollar sales, of both the domestic and commercial type of electric refrigerators.

"If you are in possession of the type of information which we are endeavoring to obtain, we will greatly appreciate your aiding us with the same."

Answer: All available statistics on the electric refrigeration industry are published in the 1935 Refrigeration and Air Conditioning Market Data Book. Information in this book includes sales of household electric refrigerators 1919-1934, commercial refrigerating machine sales, 1923, 1934, industrial refrigerating machinery sales 1900-1934, and ice box sales 1911-1934.

Belding-Hall Service

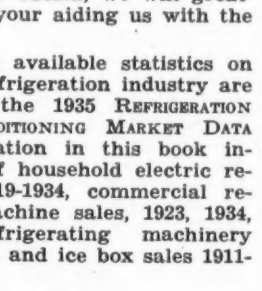
No. 2409 (Service Man, Illinois)—"Would be grateful if you could help me out of my difficulty with my Belding-Hall electric refrigerator.

"I am told by the Deissler Machine Co. of Greenville, Penn. that some issues of the Electric Refrigeration News contain complete information and service instructions on the above refrigerators.

"If you have these two copies in stock and will mail them to me, I will appreciate it."

Answer: Service articles on the Belding-Hall electric refrigerator are contained in the August 22 and August 29, 1934 issues of Electric Refrigeration News.

TRAINING MEN . . .



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POSITION AVAILABLE

WANTED 3 salesmen who are now calling on refrigeration parts jobbers, 1 for northern Illinois and northern Indiana, 1 Iowa and Minnesota, 1 Wisconsin and northwest corner of Michigan, to carry an added line of "Ranco Cold Controls". Please correspond with B-Line Refrigerator Parts, c/o S. Harris, 8038 S. Racine Ave., Chicago, Ill., for further information and proposition.

POSITIONS WANTED

FOURTEEN YEARS' sales experience domestic and commercial refrigeration. Thirty-nine years old, familiar with general appliances, complete knowledge Eastern territory. Held positions as supervisor, sales manager, and Eastern district sales manager with largest manufacturers. Connection with reputable concern desired. Will locate or travel in East. Box 720, Electric Refrigeration News.

FRANCHISES AVAILABLE

DISTRIBUTORS; DEALERS. Buy fully reconditioned refrigerators as low as $25. Hundreds of nationally advertised electric refrigerators priced right for retail resale. Write for booklet containing specifications and prices for domestic and export trade. Our reputation in the trade is an assurance of A-1 merchandise. Look for our label "Remanufactured by Federal Refrigerator Corp., 435 11th Ave., New York."

FRANCHISE WANTED

COMMERCIAL REFRIGERATING EQUIPMENT: European manufacturer wants connection with compressor factory for delivery of bare two-cylinder compressors with flywheel, suction and discharge valves; condenser factory for delivery of different sizes air-cooled condensers for methyl chloride. Lowest quotations for shipments of 100 compressors with drawings and particulars. Box 692, Electric Refrigeration News.

EQUIPMENT FOR SALE

REBUILT Mayson expansion valves, $1.00. Rebuilt American Radiator expansion valves, $1.65. Ranco controls, all types, $1.95. Frigidaire and Kelvinator dry and flooded coils, $1.50 up. Rebuilt domestic and commercial units, $12.50 up; all sizes from ⅛ HP to 1½ HP; thoroughly rebuilt, fully reconditioned. Federal Refrigerator Corp., 437 11th Ave., New York.

CABINETS—Household and commercial—new and factory seconds—high grade manufacturer—attractive prices—4, 5 and 6 cu. ft. lacquer exterior—10, 12 and 15 cu. ft. all porcelain domestics—18 models commercial cabinets—immediate delivery—write or wire for literature and prices—Midwest Stamping & Enameling Company, Morrison, Illinois.

ISOBUTANE: We offer purest and dryest Isobutane for the most exacting scientific purposes; in your 80 lb. cylinders at $0.75, in our 120 lb. cylinders, $0.70, in small lots at $1.00 per pound. The Standard Refrigeration Co. of Pittsburgh, 1148 Dohrman St., McKees Rocks, Pa.

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HALECTRIC thermostat repair service. B & B, G.E., Cutler-Hammer, Penn, Ranco, Tag., etc. Expansion valves repaired. Gas service, Ethyl, Methyl, Iso-Butane, Sulphur. Your cylinder or ours. Competitive prices. Halectric Laboratory, 1793 Lakeview Road, Cleveland, Ohio.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. Van Deventer (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

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We have an opportunity for a young man as assistant sales manager—a new position in our organization—requiring a good field selling record as well as experience in sales organization work. We are a long-established Eastern manufacturer of fine refrigerator display cases and refrigerators for electric refrigerator distributors. For early consideration please give full particulars in first letter.

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